



Mac

ADDICT

38

STEP BY STEP:

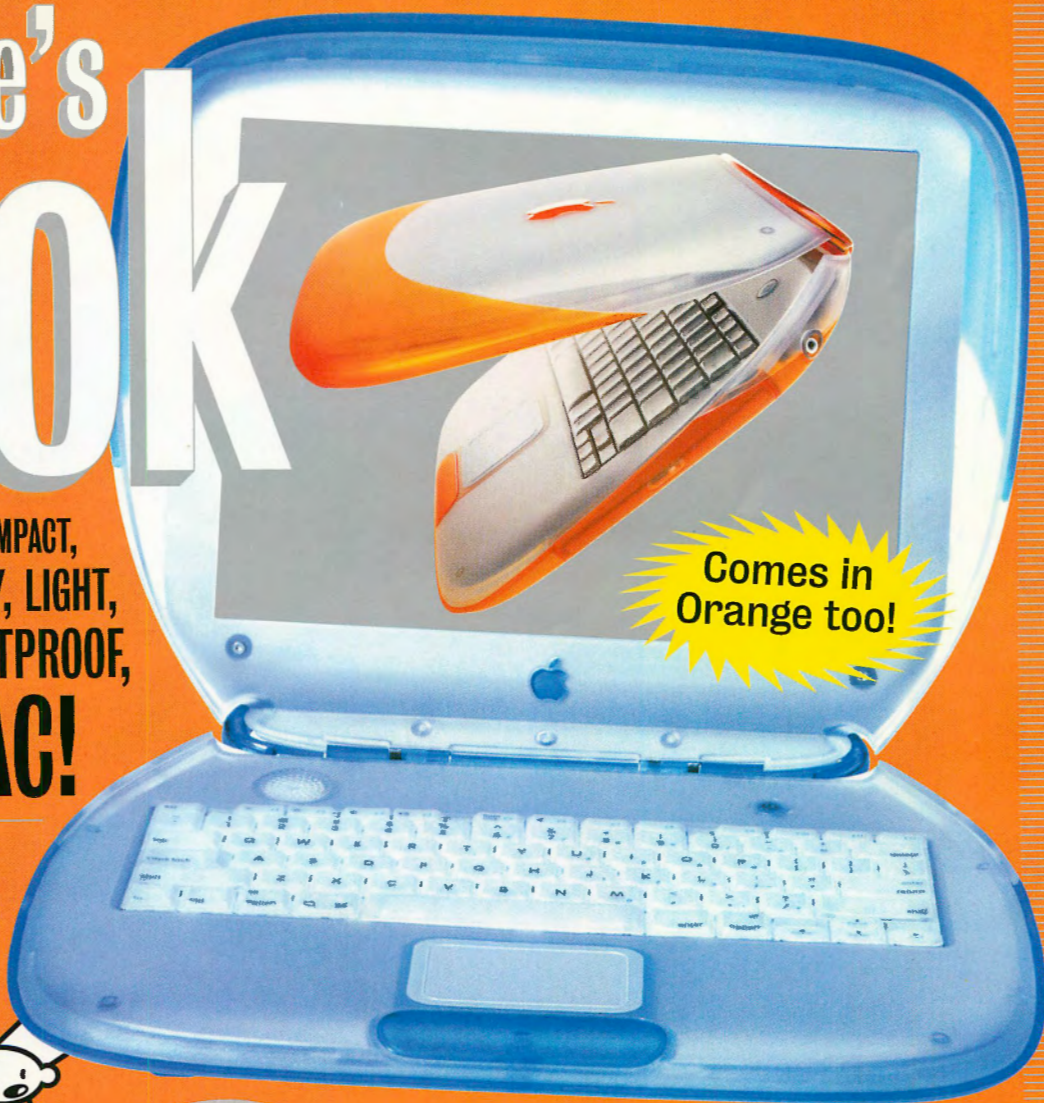
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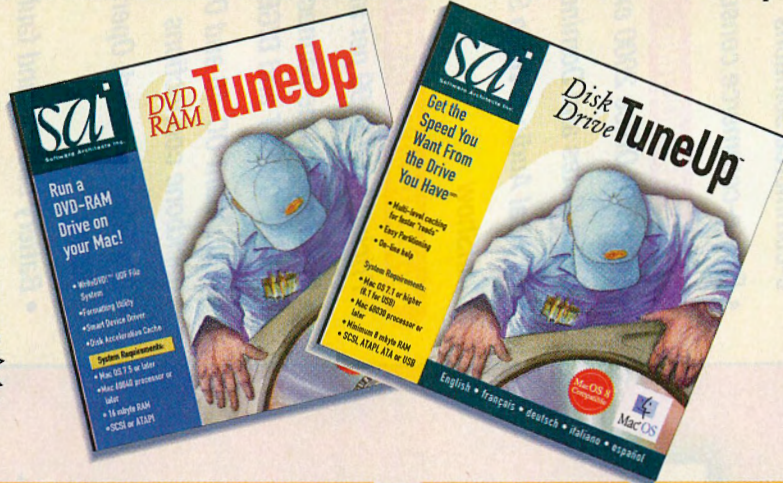
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DVD-RAM TuneUp requires Mac OS 7 or higher; Disk Drive TuneUp Mac 7.1 or higher & 8.1 for USB.

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OCTOBER 1999

highlights

24 The Wild, Wonderful iBook

We cracked open the iBook, took notes, and snagged a few photos. Wanna see 'em? Flip to where the action is for our first close-up look at Apple's colorful new PowerBook. While you're there, check out the piece on wireless Internet—you'll be shocked and amazed!

BY DAVID REYNOLDS

30 Visual Guide to Easy 3D

Make your own spinning Apple logo with our simple (no fooling!) guide to creating 3D images. We'll show you how to turn a flat Macintosh apple into a full-figured 3D masterpiece in less than 10 steps using the full working version of StrataVision3d 4.0 that's on the Disc. We'll also tell you which other budget 3D programs are actually worth spending money on. **BY STEVE ANZOVIN AND RAF ANZOVIN**

36 Fight Back For Your Mac Clone

Even if the only way they'll take away your Mac clone is by prying your cold, dead fingers off of it, you may still want to upgrade. Turn your old clone into a new G3 in our 7-step system makeover that's sure to keep you Mac clone fighting the good fight.

BY TODD A. STAUFFER

how to

70 Make a CD Jewel Case Cover

Thanks to that CD-burner, you've quadrupled your CD collection...but dang is it ugly. Plain CD-R covers are for PC dweebs. You own a Mac, Jack—your home-brewed CD covers should show it! **BY JOSEPH HOLMES**

76 Build Web Style Sheets

Cascading Style Sheets let you build font style templates for your Web site (oh, my gosh!). And thanks to potent new programs like Adobe GoLive and Macromedia Dreamweaver, you don't have to be a big fat code head to use them. **BY MARK SIMMONS**

82 Build a Bootable Troubleshooting CD

Face it, Macs crash too. Like having tykes around pools, you better be prepared for something to go horribly wrong someday. Luckily, we've got tips on making your own troubleshooting CD. It's like CPR for your Mac. **BY OWEN LINZMAYER**

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Volume 4, Issue 10

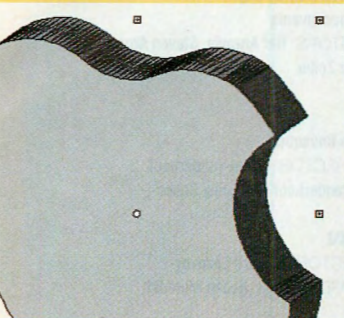
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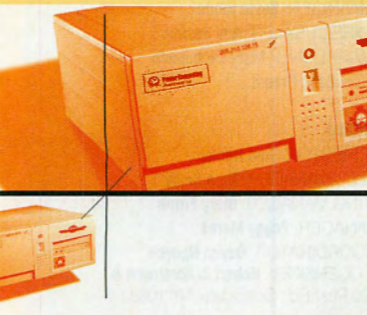
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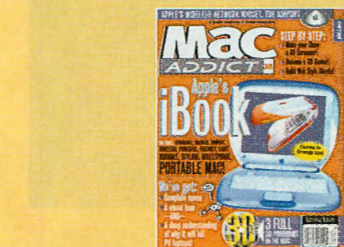


PHOTO OF BLUE iBook prototype taken by Stan Musilek. Photo of orange iBook courtesy of Apple Computer.

I TOLD YOU not to feed it after midnight!

every month

10 Editor's Note

iBook's first impressions—too girly? too cute? or just too dang cool?

12 Letters

The usual assortment of fruits and nuts, plus one cute bunny.

16 Get Info

The Mac is back, baby, and nowhere is that more evident than in the flood of product announcements and other cool stuff to come out of Macworld Expo. Plus, we have the scoop on Qdesign's MP3 challenger, three must-know Mac tips, and winners of our graphics cliché contest.

22 Scrapbook

Ever wonder just how that nifty-spiffy video card in your Mac works its pixeliscious magic? We'll show you just what goes on behind the scenes using our guinea pig video card.

42 Reviews

If it comes out for the Mac, we'll pound on it for awhile. This month we've got Apple's anorexic new PowerBook G3, animation and multimedia superstar Flash 4, the first Rage 128 PCI card and other goodies to boot!

68 PowerPlay

Yep, it's the summer of games, and have we got a lineup for you! Actually, the hard-working game developers out there have the lineup; we're just telling you about all the toys they're busily readying for fall.

86 Ask Us

OK brainiacs, think you're smart? Can you tell the difference between Mac and PC TrueType fonts? Do you know the fastest modem a classic Mac can handle? We do.

112 Shutdown

The other wireless notebook, the sound of one bit clapping, MacAddict Corrections, and a brand new Fitzpatrick the Mac Rat cartoon!



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ADDICT 38
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PUBLISHER/EDITORIAL DIRECTOR Cheryl England

EDITORIAL

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EXECUTIVE EDITORS Nikki Echler, David Reynolds (technology)
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ASSOCIATE EDITOR Jennifer Ho (reviews)
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INTERNATIONAL LICENSING: Robert J. Abramson &
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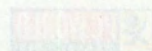


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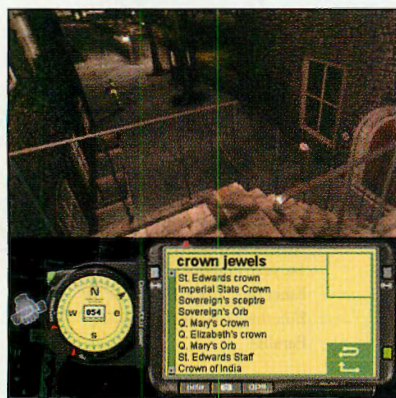


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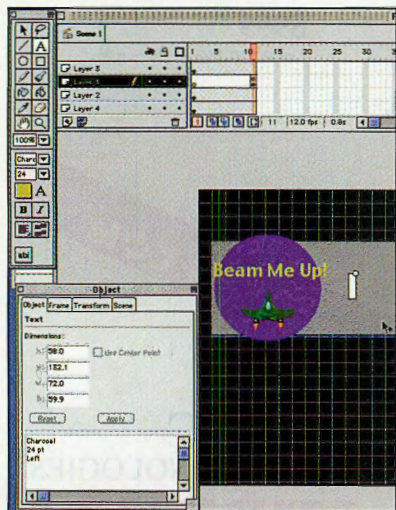
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Traitors Gate Demo

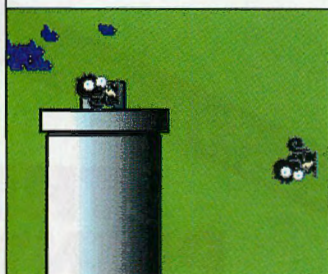
This first-person, beautifully rendered, 3D adventure game focuses on one prized possession—the Crown Jewels. Not those jewels! We're talking British, baby, and your mission is to steal the Crown Jewels from the Tower of London in order to foil and trap another scheming operative who wants them for real. Realistically modeled from more than 5,000 photos of the actual Tower of London, the graphics and 360-degree QuickTime VR ability in this game will make you feel like you're on a European Holiday.

Flash 4 Trial

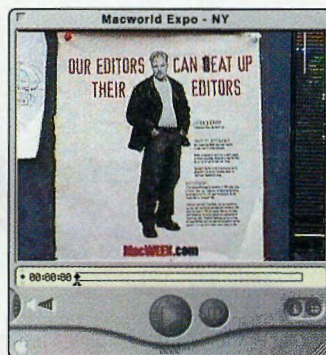
Pow! Zip! Phhht! Boi-oi-oing! If Web graphics could talk, these are some of the sounds they might be making after going through a Flash makeover. This powerful graphics and multimedia package will allow you to create sophisticated interactive vector graphics and multimedia that will make your Web sites practically sing and dance, delivering it to all browsers at a low bandwidth. And with this latest version, you can even add streaming MP3 audio to your site.

Squirrel Kombat 1.0

It may not be among the most sophisticated or graphically intense games currently on the market, but this one sure takes the cake when you rank it for the belly-laugh factor. This crazy, fast-action, scamperin', arcade-style game pits squirrel against squirrel in a duel to the finish accompanied by some rather bizarre music. Whoop ass on a motley assortment of squirrels who possess a wild variety of battle maneuvers, such as the elusive, spontaneously combusting squirrel or the squirrel who sucks you up and spits you out. A nutty good time!



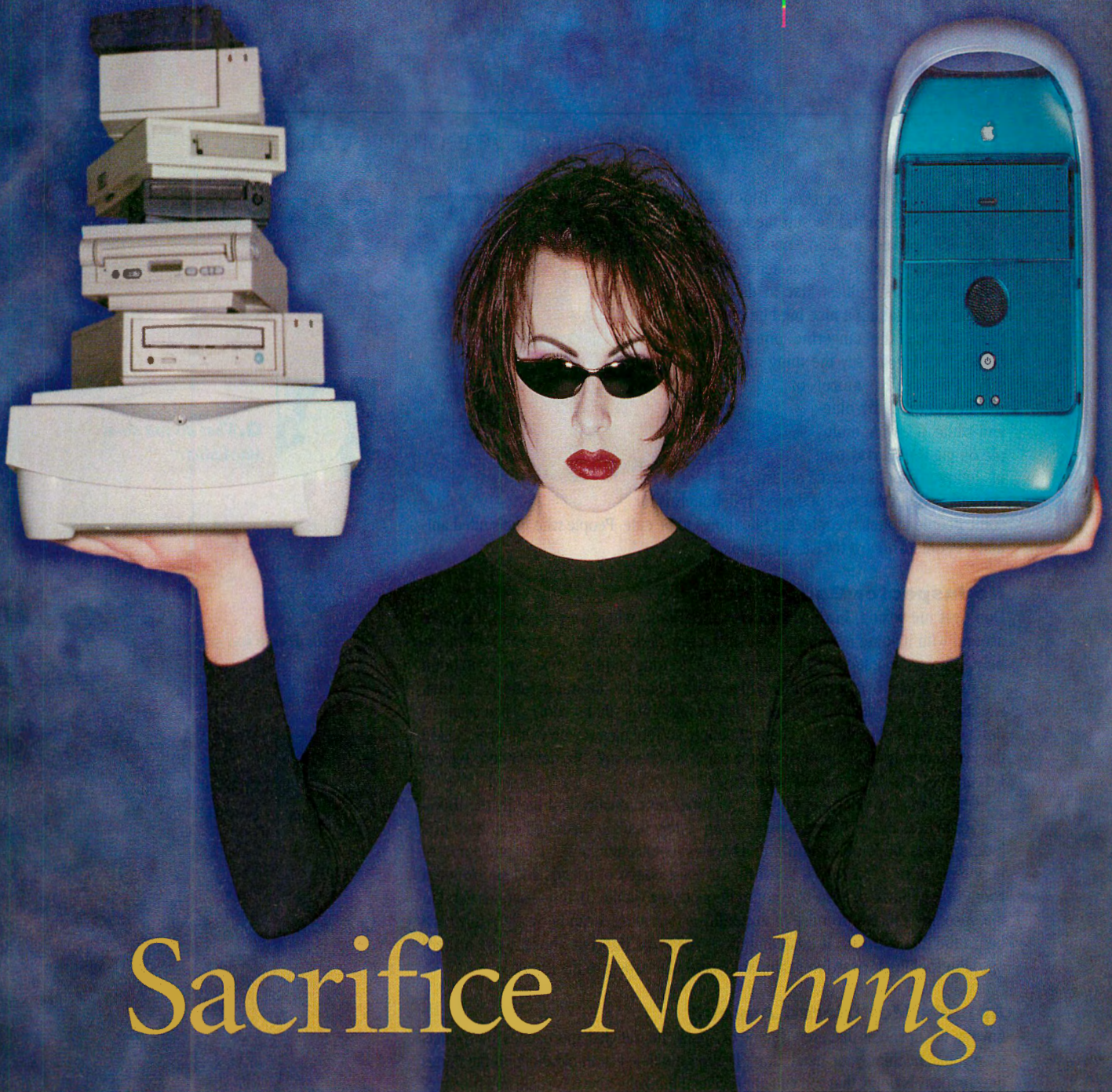
I'M KING of the Can!!!



We came, we saw, we conquered! The Macworld Expo in New York was a blast and left us all feeling a bit giddy after being recognized by many of you dear readers. In fact, the "celebrity" factor pumped Dave's ego enough to issue a challenge to MacWeek.com Contributing Editor Jason O'Grady, who stated, "Our Editors can beat up their Editors." Oh really? Check it all out in this month's Staff Video.

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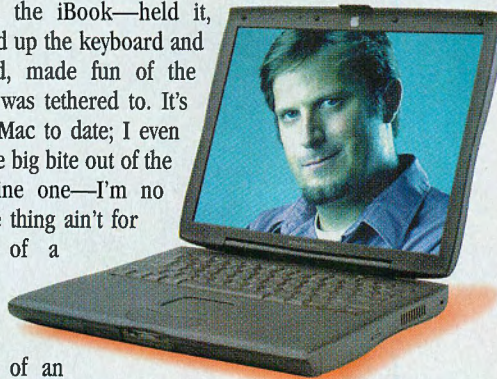


editor's note

editor

Read this! Don't flip the page; this is important, dang it!

Well, I've seen the iBook—held it, shaken it, lifted up the keyboard and poked around, made fun of the stocky Apple employee it was tethered to. It's definitely Apple's fruitiest Mac to date; I even thought about taking a nice big bite out of the thing (it was the tangerine one—I'm no freak). But I gotta say the thing ain't for me. I'm really more of a whiskey/muscle car/blue-and-white G3 with multiple 64-gig RAID array type of fellow. This is more of an anime/VW Bug/iMac sort of device. It definitely is for some people though. People that like things to be cute. People who like stuffed animals. People who are twelve years old.



No Inspector Gadget Here

Don't get me wrong, I'm not knocking the iBook. When we get one in, I'll poke around with it some more, and I'm sure a few Nikki Echlers....I mean staff members, will want to take the thing home for a nice long cuddle. I'm just trying to point out that a super bright portable gadget with a handle doesn't get me going like, say...FireWire on the motherboard did (dang—now that's cool). Then again, I don't own a cellular phone, I laugh at people scribbling away on Palm devices, and the last time I thought about owning a pager it was so my...uh, never mind. I guess I'm just not a techno-gadget type of guy.

One thing that I do like, however, is super functionality, and luckily the iBook has some of that too. Wireless networking—now that's something I can think of a bazillion uses for. Walk around with a wireless connection, a Web cam and a microphone—you're a human TV network. Or get a bunch of friends and sit around a room with a bunch of cord-free computers playing Quake III Test—sounds good to me. Also, the iBook's promise of durability is intriguing. I can be really, really hard be on the things I own. If this computer's ready for rigorous abuse, well...bring it on. (I'm looking forward to testing this particular aspect of the iBook.)

Apple's Multitiered Assault

Anyway, the upshot is that even if some of Apple's newfangled approaches to products have you scratching your head, don't fret too much—just think about all the things the company is doing that you can appreciate. I think the new G3s rock, and the functionality behind QuickTime is better than ever, but I also think both of these things

The iBook is definitely Apple's fruitiest Mac to date; I even thought about taking a nice big bite out of the thing.

(particularly the new QuickTime) are kind of ugly. Others out there—I know—can seriously get behind Apple's new look, and probably don't give two mon-keys about the more obscure technology issues. So when you hear people say the iBook is too girly, too heavy, or non-upgradable, just blow it off. Apple's got a multitiered assault going on, and it'll deliver something for everyone—be it great technology, lots of power, or just really bright colors. On the other hand if you are a little concerned when you hear someone shriek with pleasure and demand an iBook right now, don't worry about that too much, either. It won't fit in their mouth. Trust me.—RC

Staff Rants

Giving equal time to staff opinions is a terrible idea that will never lead to anything good. But at MacAddict we don't give mind to such trivial concerns, so here's some staff takes on the iBook:



Jenifer Morgan
Managing Editor

Q. What do you do at MacAddict?

A. I find things around the office: Christmas ornaments, mini bottles of hard alcohol and packets of "Drinkable Water" for emergencies (or chasers), stuffed astronaut dolls apparently used in times past for voodoo rituals...and...oh, yeah, I read stuff too.

Q. Is the iBook too girly?

A. I think it'd be OK to carry one around, but I'd veer away from wearing matching shoes.



Adam Vanderhoof
Associate Art Director

Q. What do you do at MacAddict?

A. I try to make the magazine look good and make sure that there is always plenty of sarcasm to go around the office.

Q. Is the iBook too girly?

A. I see why they would make the iBook look all sissy like the iMac, but if the G3 desktop machine is in the same category as that cool black G3 PowerBook, then why can't Apple make the desktop G3 look cool too?



Nikki Echler
Executive Editor

Q. What do you do at the MacAddict?

A. Chew on straws, annoy freelancers, hatch secret plans, and drink lots of tea.

Q. Is the iBook too girly?

A. Who cares? No one ever worried about past PowerBooks looking too manly. Besides, if a man feels his masculinity threatened by just carrying around an iBook he probably has deeper issues to worry about.

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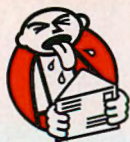
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Letters

Old MacAddict had a farm and on this farm we had dogs and a bunny.

This Month

WRITE TO US: MacAddict, 150 North Hill Dr., Brisbane, CA 94005, or email to letters@macaddict.com.
FOR CD PROBLEMS: Go to <http://support.imagemedia.com>.
FOR SUBSCRIPTION QUERIES: Call (toll-free) 888-771-6222.

A CASE OF SOUR GRAPES

OK, you've never published any of my letters. Fine. You never got around to sending me a G3. OK. Steve Jobs forgot to invite me to his Christmas party. I can live with that. But no grape iBook? That is the last straw!! How am I possibly going to complement my grape iMac without a GRAPE iBook? Oh, the pain!—JASON HILTON

USE NETSCAPE TYPE 11 ERROR INSTEAD

If you're going to refer to Adobe Acrobat as "Clown" because of its feature imparity with the Windoze version, fine. But I think you should also change Internet Explorer's



name to "Microsoft Scripting Error." Just throw a speck of JavaScript at the browser (like so many corporate sites do), and splat!—it's time to "OK" away another JavaScript/Visual Basic Script error dialog. This is Steve's "browser of choice"? So much for "it just works."—CHRIS ADAMSON

OF COARSE!

Spell check. Can you say that?
—WILLIAM AHEARN

HOW PRFC T

I just noticed...Microsoft's ticket symbol, MSFT, is "misfit" without vowels.
—DEREK HARMS

WHEN RABID FANS ATTACK

For your information, Captain Benjamin Sisko on *Star Trek: Deep Space Nine* is spelled Sisko, not Sisco like you said on page 74 of the August 1999 issue. (See <http://www.startrekcontinuum.com/ds9/toplistpersonnel.asp?ID=23469&andy=for+confirmation>). People's names (even fictional, trademarked ones!) should be double-checked.—JENNA RIANE MINDLIN

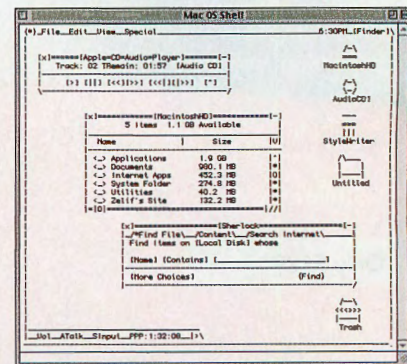
WHAT'S THE BIG IDEA?

I have my *MacAddict* magazine (Aug/99) and my *Macworld* magazine (July/99) in

front of me. I noticed that *Macworld* was showing off MP3s and the Palm Pilot. *MacAddict* was also showing off MP3s and the Palm Pilot. Are you short on ideas? If so, ask the readers for ideas (just don't make it look like you are begging). I'm sure they do cool stuff with their Macs every day. If it turns out that this whole thing was just a coincidence, continue making those great magazines.—A. D. ROBB
(Did you see the month where we both ran comprehensive articles on toilet bowl cleansers? Now that was weird!)

HOW DOES UNREAL RUN ON IT?

I was reeeeeealllllllyyyyyy bored last night, so I decided to copy my screen in ASCII by hand. It took 45 minutes. I printed it out, and now I can get that warm fuzzy feeling of using the Mac OS even though my laptop is broken and in the shop!—DOUG WALKER



DOES EVERYONE KNOW EACH OTHER HERE?

Okay, let me get this straight. First, Kathy went. That was bad enough. But then Wade left. Jeff left after that. And now Mark leaves, for crying out loud! This is getting to be stupid. Mark is the doodler, the CD-ROM guy, the former Web guru, a suspect for killing the *MacAddict* staff, and now he's leaving for good? Sheesh! What is



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other Mac
addicts at the
Web site.

Recently Sighted

As a living tribute to our family's favorite computer, my parents named their two puppies Mac and Toshi (a common first name in Japan). Like the Macintosh, Mac 'n' Toshi are very user-friendly. Maybe my parents should subscribe to a PC magazine so the cages can be lined with the magazine's pages. Since the names, Mac and Toshi, are now taken, I'll have to name my dogs Woz and Jobs.—JAMES C. SAVAGE



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going on over there? Is Prison Guy scaring them off? Or are they just leaving because they can't stand Dave being drunk anymore? Well, at least there's one good change over there—Rob is going to be editor!—BJ GATTEN

(Ummm, Mark was never the CD-ROM guy. There goes your disc next month. —KF (the CD-ROM grrrl))

TO DAVE: It's been a great year and a half. I hope you get to do more of what you enjoy, and I'll look forward to seeing it on the pages of *MacAddict*. Maybe now you can also find time to work on that drinking problem that was so obvious in several of your staff videos.

TO MARK: I was very saddened to see that you were leaving. Your sense of humor helped to make *MacAddict* what it was, and you will be sorely missed—especially on the Shutdown page. Best of luck in whatever you choose to pursue.

TO ROB: Prison Guy rules! Best of luck with this new opportunity. Just remember, despite what you learned at the Big House, tazer guns and pepper spray are not considered to be proper motivational tools for staff members who are perilously close to missing a deadline. Have fun with the new job; I look forward to seeing the results in the next issue.

TO KRIS: Great music on the CD! I especially like Droo and the TombsTones. Keep it coming!—KEVIN LUEDTKE

(What am I? Chopped liver?—NE)

A FREUDIAN SLIP?

This thought just occurred to me. Why do they make the reset button on a PC so much smaller than the power button? I tend to use the former much more than the latter.

—TIMOTHY BUSCH

P.S. If you print this, the people who keep writing about the juvenile banter in your letters section may be impressed by my use of the words former and latter.

SMALL TALK

This is Sheri. Bob says hi. I would love to wear a *MacAddict* T-shirt....not swim in it. If and when you people come out with a new tee, please offer a fitted version.

—SHERI ELBERT

THERE'S A GIRLY MAN IN EVERY PORT

John Dvorak refers to the iBook as a "girly" machine. I see only one reasonable counter to Mr. Dvorak—cultural warfare. We must ensure that masculine men, "real" men, are portrayed in art and literature using iBooks.

Fortunately, the manliest men in current literature arise from the keyboard of AppleMaster Tom Clancy. Over the years his characters have used many Macs; offhand I remember a MacIIx and several PowerBooks, but there were others. We need Tom Clancy more than ever now.

I propose that a Web or email petition be collected and sent to Mr. Clancy, requesting that in his next novel at least one of his steely-eyed heroes be seen using an iBook. Perhaps "Rainbow Six" John Clark and Domingo "Ding" Chavez could be issued camouflage-colored iBooks for counter-terrorist ops. Admiral Robbie Jackson's Navy blueberry iBook would be a welcome splash of color in a gray Pentagon briefing room. Or President Jack Ryan could be shown in a lighter moment in the Oval Office, playing StarCraft against his daughter Sally (outside in the Rose Garden).

Unlike Dvorak, Clancy's heroes have great intestinal fortitude and see no danger to their manhood from colored plastic. But some men need an external reassurance that it's "OK" to use an iBook. A single Tom Clancy bestseller would provide a lot of men with that re-assurance.—STEVE SETZER

AND HE WORKS FOR MERE PELLETS



My rabbit, Vinnie, is unique. He continually challenges the norms of rabbithood, pushing the envelope of creativity. He is also an avid Mac user. I think he would be the ideal model for the next Apple "Think Different" ad. In fact, I've included a mock-up of an ad.—NICK DIIORE

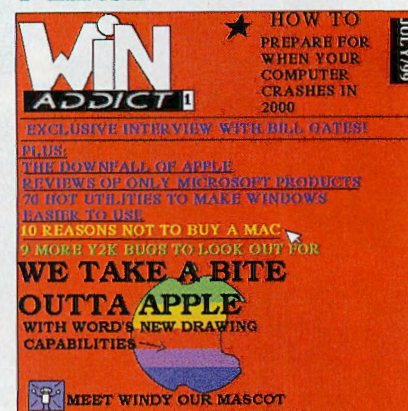
PLASTERED, AND PIERCED!

I was enjoying the "Automated Death" outtakes on The Disc when Dave turned his head and a glint caught my eye. I had to rewind and look again. Was it what I thought

it was? Yes! Dave Reynolds has an earring! Dave, why the hell do YOU of all people have an earring?—PETER WESTERMANN

(I was captured by a tribe of nomadic goldsmiths at the age of 7 in the Sangre de Cristo mountain range, and, while teaching me their ways, they forced me to wear an earring. I've had it ever since.—DR)

PASS THE RITALIN, PLEASE



After egging Bill Gates's house and pulling a fire alarm in Microsoft's offices I returned home to check the mail. Upon opening the mailbox, I screamed a thousand screams. My copy of *MacAddict* had been replaced by a new magazine, *WinAddict*. Even worse, it contained sections such as "The Downfall of Apple," and "Word's Drawing Capabilities," demonstrated with the Apple logo on the cover. No really, it's all true! I even scanned in the cover and sent it to you! They're on to us!—BRIAN WALKER

Now, You'RE COOKING...

In the upper-left-hand corner of the July issue's cover is the word "Bam!" Is this an obscure reference to Emeril Lagasse? (I did notice that this issue seemed spicier than normal...)—MATT SMITH

THOSE DARN DUKES!

Being a faithful iMac freak and Mac addict, and being from the great state of North Carolina, I am obligated to point out that there was no "Cooter" on the Andy Griffith show. You may be thinking of the great Ernest T. Bass. Cooter was on some other show that we dignified southerners don't like to talk about.—GEORGE KILLETTE

I've relied on your magazine in the past for technical info and helpful hints. Until your July issue I've had no reason to doubt your expertise and research. However, in the Shutdown section (SETI phone home) you say "...and Cooter from the Andy Griffith

Show." Cooter was in The Dukes of Hazzard, *Goober* was in the Andy Griffith Show. Both were mechanics though.—ERIC RECKLING

OUCH. THAT HURT.

I tried to load the latest version of MacTuner, and I was asked if I want Explorer to be my "default browser"! I suggest you change the name of your magazine. How about *Gates Addict*?—DON COOPER

THE SOONER, THE BETTER

Last night I had a weird dream about iMacs. I was in a truckstop in New Mexico, and they had iMacs and iMac soda where their beer and Cokes usually are. The iMacs were \$999 (below suggested price, I exclaimed to the clerk!) and the sodas came in iMac flavors with iMacs drawn on the cans. Six packs cost \$4.96 (I remember the number flashing on the cash register) and I initially bought a new flavor called Rhinosaurus. The can had baby rhinosauruses in it, so I set them free and bought a Lime and a Grape soda. I didn't get an iMac though, because I couldn't decide which flavor I wanted. Think I should seek counseling?—SEAN R.

WHAT'S THAT SUPPOSED TO MEAN?

Just wondering if you folks are gonna take on the *Macweek* ad "Our Editors Can Beat Up Their Editors"? How about: "Our Editors Can Outrun Their Editors"?—ADRIAN LIND

ONLY THE NOSE KNOWS

Horrid news. I find that my nose stops up and my eyes water when I open my *MacAddict*. What is a girl to do when this happens? My normal allergy medicine doesn't help. I love my *MacAddict*. I don't see how I can live without it.—ALICE GAYLOR

DID YOU WRITE THIS YOURSELF?!

There once was a Compaq
Who thought it was fast
Until along came a Mac
And gave it a blast

The Compaq had a friend
Who liked it a lot
But along came that Mac
And gave it a shot—HANNES RUDOLPH

YOU KNOW YOU'RE A MAC ADDICT WHEN...

...you're putting something together and there is no "Step 3."
—JOE RAVESLOOT

...you watch the Jennifer Lopez video for the iMac at the end.
—STEVEN L. MULLEN

...you feel a pang of remorse when you don't buy what's in slot G3 in the vending machine (which, for the record, is Mint-a-Burst gum).—DAVID URBANEK

...you pass by your local church and you could have sworn the sign out in front read "Macintosh Bible Study."—EDWARD S. PANK

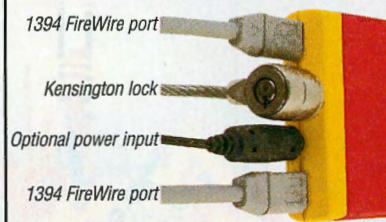
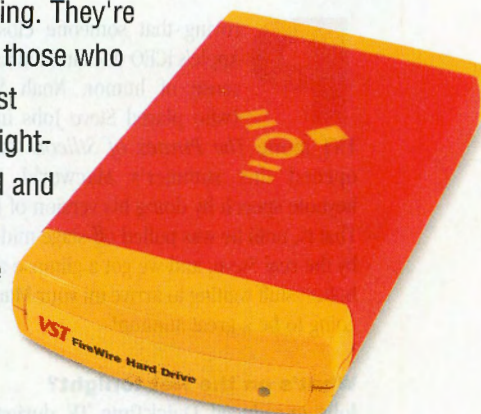
... you think that a slot machine is some sort of PCI expansion device.—P.J. YUDELL

...you're forced to use a peecee at gunpoint and you try to make aliases in DOS.—ALEX DYCK

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All the latest news that we thought you should know, served up with a smirk.

Best Mac Tidbits On The Way

Fall Mac harvest promises to be bumper crop

Proving that someone close to Apple's iCEO does indeed have a sense of humor, Noah Wiley (who played Steve Jobs in the TNT movie *The Pirates of Silicon Valley*) opened this summer's Macworld Expo keynote speech by doing his version of Jobs. That is, until he was pulled off-stage mid-rant by the real Steve, and we got a glimpse at the hottest stuff waiting to arrive on your Mac. It's going to be a great autumn!

What's on the Net tonight?

Jobs introduced QuickTime TV during his keynote address. At first, QuickTime TV sounds like an exciting new product that promises to combine the power of QuickTime with the mind-numbing selection of traditional television programming—that is, until the details of QuickTime TV emerged. Rather than being a spiffy new product for cyberspuds, it's more of an upgrade to the

existing QuickTime gestalt. QuickTime TV is the fusion of QuickTime 4 player and the QuickTime Streaming server (both of which have been around for a few months now) with better routers on the Internet and more companies providing content.

Apple signed a deal with Akamai Technologies to provide better repeating servers for QuickTime streams, making sure that people who start streaming QuickTime content will get better and smoother experiences through this beefed-up network of rebroadcasting servers. These servers receive QuickTime streams, cache them, and then rebroadcast them to local connections. And, as far as new streaming QuickTime content goes, Jobs announced that ABC news, ESPN, Rolling Stone, VH1, and Disney would be added to

BEFORE BEING MOBBED, this Apple employee holds up a tangerine iBook in the middle of the Macworld Expo keynote audience.



Show Awards



After every Macworld Expo, starting with this summer's show and probably ending with it, we give several prestigious awards based on what we saw at the show—and our whims. This year, we've chosen several:

Biggest media device with nothing to fill it: the Escient C200 DVD Changer, which sports two DVD-ROM drives, a FireWire interface, and a 200-

MOST FRIGHTENING FOLLOW-ON TO SCREENIES: Stick-On Toobers & Zots. These colorful fun foam adhesive...things...will make your Mac unique. We tried to build an iBook out of a kit, but it wouldn't boot. Otherwise, they'll bring life to an otherwise drab beige Performa or older Mac. Price: \$6-\$30 per kit. Contact: HandsOnToys (<http://www.handsontoy.com>).

disc capacity. Now, all we need is 200 worthwhile DVD titles to fill it with. Price: \$1,599. Contact: Escient (<http://www.dvdchanger.com>).

Best Windows product at a Mac show: Gemu-lator SoftMac, the Mac OS emulator. This clever emulator lets you run Mac OS 8 on your, uh, PC, if you simply must. What sets this emulator apart is that it doesn't require physical Mac OS ROM chips on a PCI card for your PC (although you still have to provide a ROM file yourself), and it can run System 7.5 through Mac OS 8.1. You can even run multiple SoftMacs at the same time, each with a different Mac OS version. Price: \$99.95, and your soul for buying a Wintel box. Contact: Emulators, Inc. (<http://www.emulators.com>).

Best way-cool waste of FireWire bandwidth: Softacoustick's digital active loudspeakers. By

the QuickTime streaming roster. The upshot of QuickTime TV is that streaming audio and video via QuickTime is going to work better than ever, and there will be more (and hopefully, better) choices in terms of content. Now, you too can get lost in VH1's "Where Are They Now" series at your very own desk.

Mac OS 9

Jobs announced that a new version of the Mac OS (Mac OS 9, the last step before Mac OS X arrives on the scene) would ship in November. Although not many details of the new OS were given, there was one tantalizing perk: Sherlock 2.0. In Mac OS 9, Sherlock 2.0 takes on QuickTime 4's brushed metal look, and its annoying interface habits, too. The top part of the window features a series of wells, in which favorite search setups can presumably be saved.

Apple's Phil Schiller demonstrated Sherlock 2.0's ability to search for the best prices for online shopping and auctions, people, and other sorts of subsets. This comes on top of the voiceprint recognition feature for Mac OS 9 demonstrated last May at Apple's Worldwide Developer Conference, in which a Mac running Mac OS 9 with multiple users can identify a particular user's voice print.

Mac OS 9 is due out in October for a price of \$99, and Apple says it's like getting a whole new Mac for the price. We just bought an 8.5 Mac last year for \$99, so we're set, thanks.

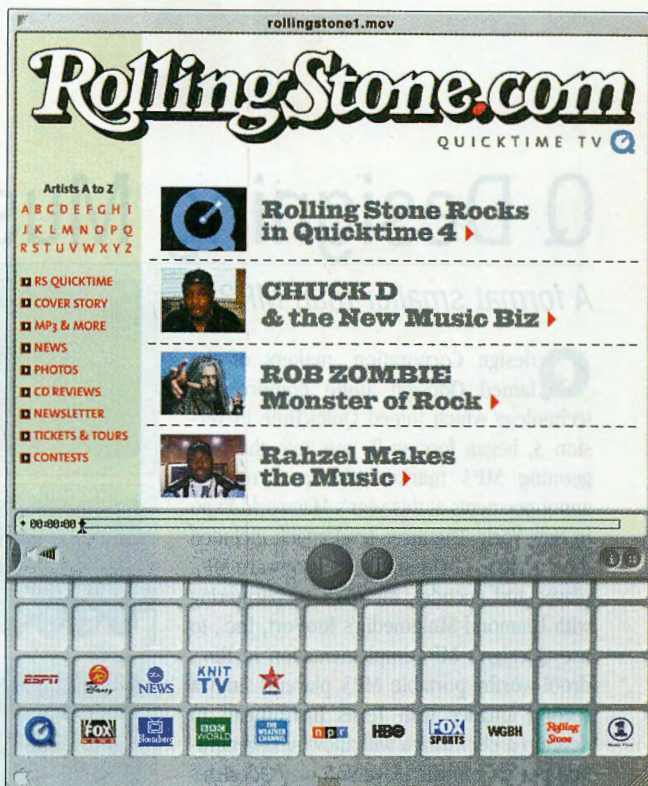
His Master's Voice

Who would have thought that an IBM executive would have the name Ozzie Osborne? Not us. When Osborne was introduced by Jobs,

THANKS TO QUICKTIME'S integration of Macromedia Flash into the player, streaming content served up via the player can have a clickable interface like what you might find in a Web browser. Best of all, you might get a picture of Rob Zombie in your player.

we expected to see the '80s rocker come on stage to bite the heads off a few public relations people. Man, were we disappointed when, instead, an IBM executive walked out on stage. But that turned to excitement when Osborne announced that the company's ViaVoice speech recognition software package (you know, you talk, it types) would be coming to the Mac.

To back up the claim, IBM was on the show floor, demonstrating the ViaVoice package on an iMac. The ViaVoice program, which is expected to cost under \$100, has a continuous voice recognition that lets you dictate to your Mac via a special microphone and software combination. The microphone will even ship with several add-on plastic plates so that it can be made to look like your Mac. Now, Mac owners across the globe can have their words misunderstood by a machine.



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Still in the BLACK

Just before Macworld Expo started, Apple reported its seventh profitable fiscal quarter in a row. For those who haven't been around the Mac universe for a few years, there was a time when some doomsters and nattering naybobs thought Apple's profitability would never be routine. Well, it is, and the numbers just keep getting better and better. Here are Apple's fiscal highlights from April through June of 1999:

- \$203 million net profit, which compares to a \$101 million net profit in the same time period in 1998. \$89 million of this quarter's profits came from sales of 10 million shares of ARM Holdings, the makers of the microchips inside the Newton.
- \$3.1 billion (yes, that's with a "b") in cash holdings.
- Conversion of \$661 million of debt into stock.
- Stock buyback plan, in which Apple will purchase up to \$500 million of its own stock.
- Overall unit sales grew 40 percent over the previous year.
- Gross margins were 27.4 percent, compared to 25.7 percent during the same time last year.

With these numbers, Apple's looking healthier than ever. Our pet theory? Apple is building an economic engine to drive military expansion into neighboring regions—wait—that was Germany.—DR

throwing digital audio files (such as MP3s and AIFFs) through these bad boys, you'll be able to rock the house all through FireWire and the speaker's 100-watt amplifier. Great for your next rave. Price: Not yet set. Contact: Softacoustic, (<http://www.softacoustik.com>).

Most genuine purveyor of simple iMac accessories: Don Trammell and his magnificent iStation, which is a stackable tray that lifts your iMac (or monitor) off your desk and provides storage space for the keyboard, disks, and just about anything else you can cram into a cubbyhole. Plus, they come in rainbow colors. Price: \$18.95. Contact: Vu-Ryte (<http://www.vuryte.com>).—DR

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Q Designing Music

A format smaller than MP3?

Qdesign Corporation, makers of the famed Qdesign audio compression technology which joined QuickTime in version 3, began forcing its way into the burgeoning MP3 market with a throng of announcements at this year's Macworld Expo in New York. The three-level attack included the unveiling of Qdesign's own software MP3 player and encoder, the MVP (a partnering with Diamond Multimedia's RioPort, Inc., to use Qdesign's MP3 implementation in Rio's drool-worthy portable MP3 players), and a second alliance with Texas Instruments to develop a chip which will allow next-generation portable music players to play Qdesign's fabled audio compression format.

The latter of these announcements—the partnering with TI—is especially significant because the Qdesign music format compresses audio into a much smaller file than the MP3 format, while still maintaining extremely high quality sound.

The MVP, Qdesigns MP3 software player/encoder, will encode music from CD into the Qdesign compression format as well as MP3. QuickTime 3 or later, can likewise play files saved in the Qdesign music format. A beta version of the MVP is currently available for



QDESIGN'S DOPE NEW MVP SOFTWARE PLAYER/ENCODER can read and compress files into either MP3s or Qdesign's proprietary audio format.

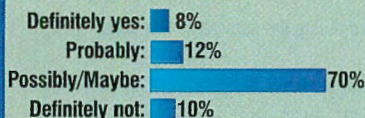
download at Qdesign's Web site (<http://www.qdesign.com>), and the final version is scheduled to ship in late August (by the time you read this, hopefully), retailing for \$19.99.—RC

Adobe, Quark
—who sucks less?

An informal survey

In late July, TrendWatch announced a survey of creative professionals in which they were asked if they would rather stick with QuarkXPress or switch to Adobe InDesign when it's released. The actual question was: "If InDesign meets your needs, will you switch?" Here's how the answers broke down:

If InDesign meets your needs, will you switch?



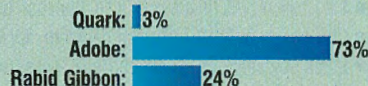
We at MacAddict

Labs figured that the

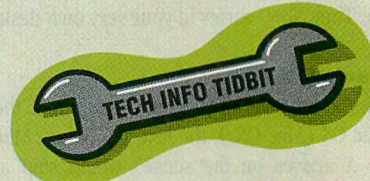
real question was:

"Which would you rather deal with: Quark, Adobe, or a rabid gibbon with mange?" So we asked some "creative professionals" around our building. Here are our survey numbers:

Which would you rather deal with: Quark, Adobe, or a rabid gibbon with mange?



While we made every effort to correct for masochists and *very* enthusiastic animal lovers, it should be noted that a few probably slipped through. We're not statisticians, after all.—DR

Errors and
jitters and
smoke
—oh my!Three fast fixes for strange
and nagging problems

- If you're getting the error message "Not enough memory is available while using Sound Manager" on startup, try this: restart with extensions off, open the Preferences folder inside the System Folder, drag the Sound Preferences from there into the Trash, and restart again.
- If you smell or see smoke coming from your Mac, you should probably just unplug your Mac and arrange to have it examined by an authorized Apple repair facility. In essence, Apple says that even though there's smoke, any resulting fire should be contained to the component where the smoke originated from and it shouldn't cause a safety issue.
- To clean a jumpy mouse, turn off your Mac, turn the mouse upside down and then rotate the retaining ring counter-clockwise to open it. Then, turn the mouse over and catch the mouse ball and ring as they fall out. Clean the rollers in the mouse with a damp cotton swab, removing any excess goo with your fingernail. Blow any dust out of the mouse case and reassemble the mouse.—DR

All information in Tech Info Tidbits is taken from Apple's Tech Info Library at <http://til.info.apple.com>. Stop by and learn something today.

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Drawing to a Close

You win some, you lose some. So, try not to feel too discouraged if your name is not Bob Jones of Redding, California—the talented and charming winner of our great graphics studio giveaway announced in our June issue. Although we were flattered by the many suck-up attempts, saddened by the pathetic pleas, frightened by the threats, and briefly swayed by a few of the better bribes, Bob's work just really struck home.

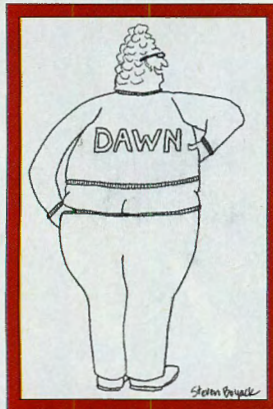
So, to all of you budding artists who were counting on those free copies of Adobe Photoshop and Adobe Illustrator to launch your careers in graphic design, we hope you didn't give up your day jobs. Remember, the term "starving artist" is just a cliché, not a prerequisite. Still, we hate to leave you high and dry, so stay tuned for next month's issue where we'll give you free alternatives to Adobe's pricey programs. Until then, wipe your tears and try to enjoy some of the contest's more intriguing entries.—NE

We're Still Laughing

Each day we rushed to the mailbox eager to see what hilarious new drawings would get us through the late afternoon slump. Although there was a lot to laugh about, these silly doodles continue crack us up.

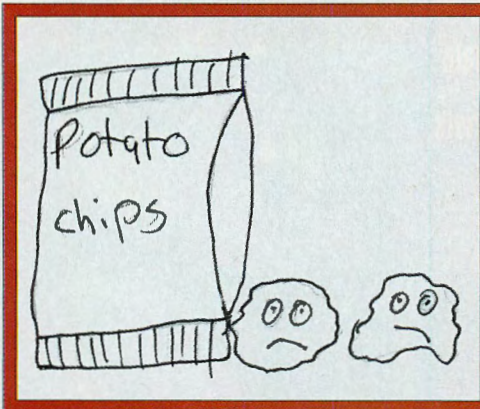
At the Crack of Dawn

Illustration by Steven Boyack



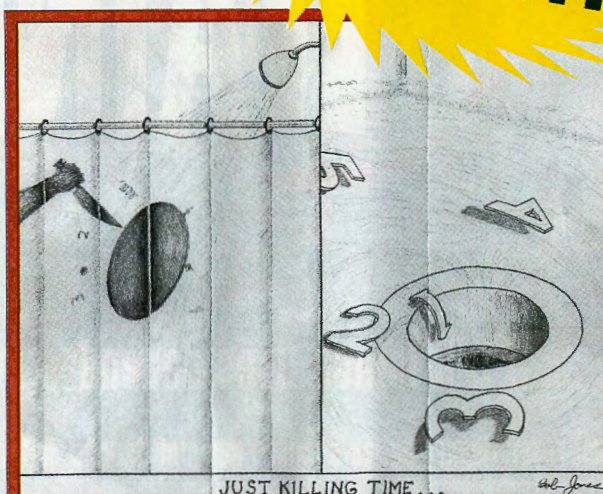
When the Chips Are Down

Illustration by Thomas Meadows



Just Killing Time

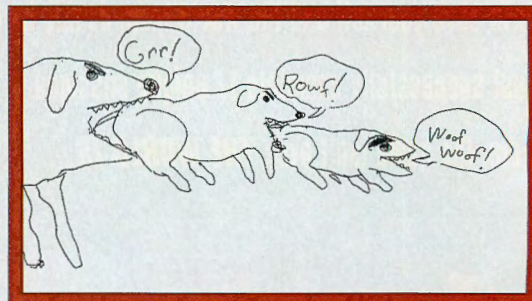
Illustration by Bob Jones



WE DIDN'T DECLARE Bob the winner because we're afraid of what he might do to us otherwise. Who told you that?

It's a Dog Eat Dog World

Illustration by Paul Q. Rigmaiden

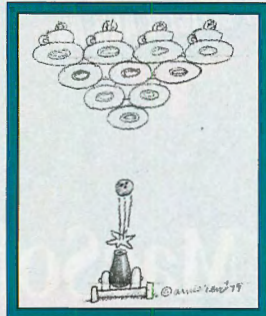


Things That Make You Go Hmmm...

We've scratched our heads right down to the bloody scalp and still can't figure out what clichés these illustrations represent. Send your best suggestions to: What the Heck? MacAddict c/o Nikki Echler, 150 North Hill Drive, Brisbane, California 94005. We'll pick our five favorite entries and send you a MacAddict T-shirt. May the fun never stop!

Cannon and flying saucers?

Illustration by Arnie Ten



Hand holding wine glass?

Illustration by Brian Marchand



Mouse with teeth?

Illustration by R.M. & V.A. Peyton



Voodoo guy?

Illustration by Clyde Hudson



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scrapbook

Ooh, look! It's pretty. No, look closer...closer...closer—no, that's too close!

How You Get What You See

by David Reynolds and Jennifer Ho

Have you ever wondered how those beautiful bits get from your hard drive to your monitor? Through your video card, of course. We're here to demystify the voodoo that goes on inside the silicon of a PCI graphics card, which applies pretty closely to how onboard video works, too. The card shown here, a Formac ProFormance3 PCI graphics adapter, shares some similar characteristics with other graphics cards, so feel free to get that broad brush out.

Making Connections

For specialized functions, some video cards will have a connector that allows them to connect to another video card or helper card, such as a 3D accelerator. In the case of the ProFormance3, it's a slot to attach a TFT/LVDS adapter, which lets the card work with certain flat panel displays.

Reminiscing

Or something much faster, by today's standards. Video cards have their own specialized RAM used for storing and blitting bits back and forth. The amount of video RAM (or VRAM) a card has determines how many colors get displayed at a given resolution. Today, 32MB of VRAM is not uncommon, and that much memory can display millions of colors at resolutions of 1,920 by 1,080. Video memory can also affect a monitor's refresh rate (the number of times information is painted on a screen per second). The minimum refresh rate is typically 60Hz, which makes the monitor flicker, with a more comfortable refresh rate of 85Hz being common. Some monitor/video card combinations can go as high as 120Hz or higher.

The Center of the Universe

Yep, your video card has a CPU. This is where all the magic takes place: number crunching to produce geometry, meshes, lighting, shading—it's all figured out here, and much faster than you or I could do it, I might add. The card's CPU (and supporting chip set, where things like rendering take place) is the label by which it's known, whether it's Rage 128, 3Dfx, or something else.

The Spigot

After all of the processing is done, the massaged bits leave here, through the video-out port as a stream of analog signals. From there, they move on to the monitor and are spit out as beams of electrons against a phosphorous screen. What a way to go.

The Supporting Cast

Every star needs an entourage, and a video card's CPU is no exception. The board's architecture makes sure that everything goes where it should at the fastest possible speeds. The latest cards have 128-bit architectures, which means that data moves around 128 bits at a time. Compare that with the old 8- and 16-bit pathways, and you'll see how performance has improved.

Interfacing

This is where the video card plugs into the PCI bus. Data travels from the Mac's CPU and memory through this connector into the card and is spit out of the monitor after much munching and crunching. With the advent of the new blue-and-white G3 towers, the bus speed can be either 33 or 66MHz. Speed does make a difference—the faster you can get data into the video card, the faster it can be processed.

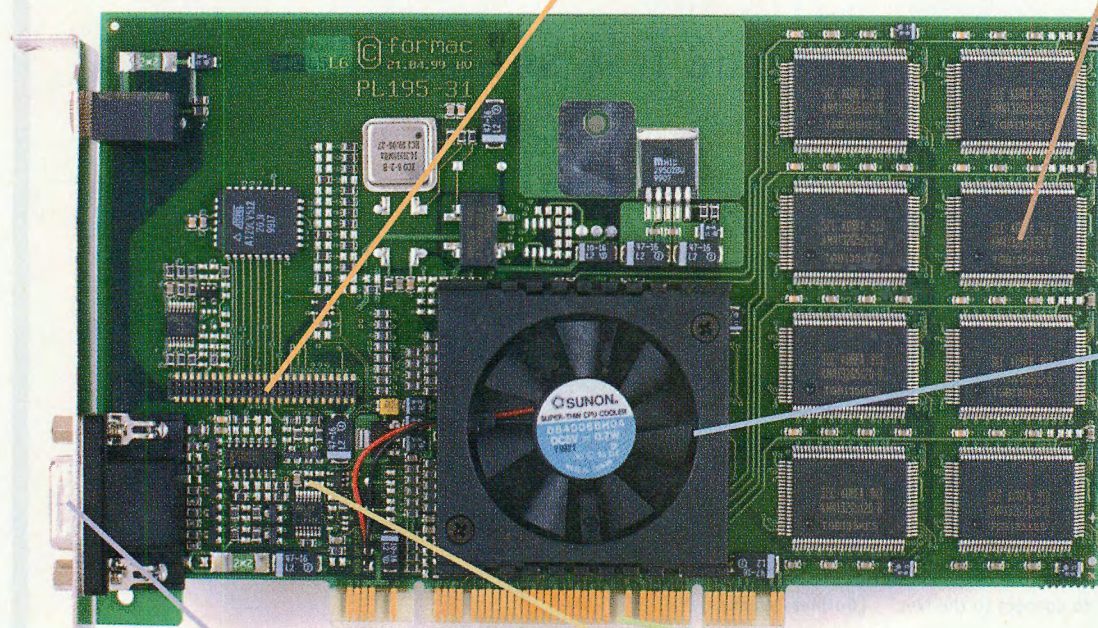
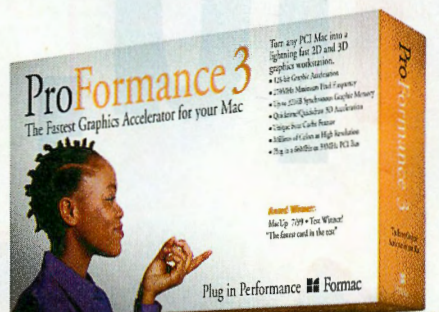


Photo by Aaron Lauer

Think Faster!

ProG3

The Ultimate Processor Upgrade for your Mac can boost the processing power of any Macintosh G3 up to 500MHz - at a fraction of the cost of a new system.



ProFormance 3

The Fastest Graphic Accelerator for your Mac will turn any PCI Mac into a lightning fast 2D and 3D graphics workstation.



ProRAID

This SCSI Accelerator Kit is the ultimate I/O solution to optimize high-speed data transfer between your Mac and SCSI peripherals up to 80MB/s data transfer rate.

ProTV

Turn your Mac into a full function TV/VCR that can capture still frames and full motion video.



Designed specifically for the Mac, our products will turn your friendly Mac into a lightning fast, incredibly powerful media creation computer. Formac's Performance Suite is the ultimate, cost-effective upgrade package. Don't wait. With Formac you don't have to. Get your Mac to think as fast as you do, just visit www.formac.com and learn how easy it can be.

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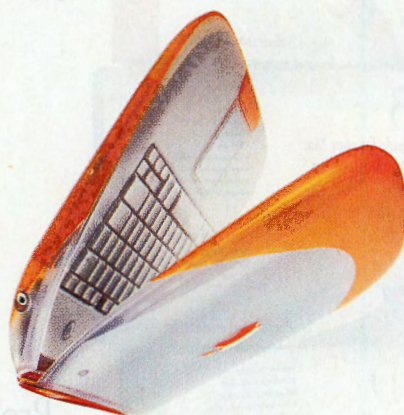
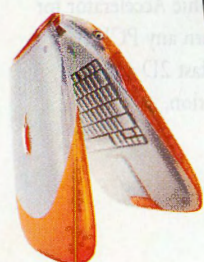
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iBook

The Wild, Wonderful



by David Reynolds

Apple's extended game of foursquare finally came to an end with the company's announcement of the iBook—its long-awaited consumer portable. Speculation fueled anticipation earlier this year when Steve Jobs revealed the family chart showcasing the iMac, G3 tower, G3 PowerBook, and the blank space where the iBook should have been. However, with the announcement of the iBook it now looks like everyone's a winner.

Although the core technology remains the same—you still have to type with a keyboard, view images via a monitor, and occasionally recharge the battery—the iBook's modern design would have the Jetsons jonesing. And, in addition to its lickable looks, the iBook offers you the power to surf the Web without a net, um...we mean...without wires! Wireless Internet is affordable, fast, and will soon be available at a store near you.

But the iBook isn't all style and gosh-wow features—at its heart, the 6.6-pound consumer portable features a non-upgradable 300MHz G3 processor, 32MB of RAM on the motherboard (with an open RAM slot, making it upgradable to 160MB), and six hours of battery life. The iBook should ship in September, and, with a price tag of \$1,599, it's awesome. So take a few minutes and follow our guided tour of Apple's new addition to the venerable PowerBook line.

iBook

IT'S HERE, IT'S WEIRD,
GET USED TO IT!

iBook



Photo courtesy of Apple Computer

At a Glance

We can hardly wait to get our mitts on the iBook, but what about the other side of The Force? How does the iBook stack up against similar brand-name notebooks from the WinTel world? Not bad, not bad at all. We looked at PC laptops from Gateway and Dell with similar features, and they were not only more expensive than the iBook—they didn't look nearly as nice. Here's the scoop:



The iBook

- 300MHz G3 processor
- 32MB RAM
- 3.2GB hard drive
- 12.1-inch TFT active-matrix display
- ATI Rage Mobility graphics with 4MB VRAM
- 24X CD-ROM drive
- 56K modem
- 10/100baseT Ethernet
- USB port
- six hour battery life
- optional wireless networking through AirPort slot
- 6.6 pounds
- \$1,599



Dell Inspiron 3500

- 366MHz Celeron processor
- 32MB RAM
- 4.8GB hard drive
- 14.1-inch TFT active matrix display
- MagicMedia AGP graphics with 2.5MB VRAM
- 24X CD-ROM drive
- 56K modem
- 10/100baseT Ethernet
- serial, parallel, infrared, USB, monitor, keyboard, mouse ports
- 2.5 hour battery life
- two Type II PC card slots (one filled with Ethernet card)
- 6.5 pounds
- \$1,943



Gateway Solo 2500 SE

- 333MHz Celeron processor
- 32MB RAM
- 4GB hard drive
- 12.1-inch active matrix display
- 128-bit graphics accelerator with 2MB VRAM
- 24X CD-ROM drive
- 56K modem
- 10/100baseT Ethernet
- serial, parallel, infrared, USB, monitor, keyboard, mouse ports
- five hour battery life
- two Type II PC card slots, one with Zoom video (filled with modem and Ethernet cards)
- 7.1 pounds
- \$1,774

Part of what makes the iBook so lickable is its design, which you have to see to fully appreciate. So, here you go. Feel free to gaze on it with wonder and awe. Go ahead, reach out and touch the matte finish rubber that's wrapped around the curvy polycarbonate case. Pick it up by its translucent plastic handle. OK, so maybe you can't feel how cool (or heavy) the little handbag, um, PowerBook, is by the picture alone, but you can get a pretty good idea of why we all want one. Can't you?

Power Supply

Apple designed the iBook's power supply to be as stylish as the computer it powers. The 45-watt power supply features a spindle around which the power cable can be wrapped, and the power plug has a nubbin that pops into the spindle's rim to be secured.



Hey! Who Stole My...

- **Audio In**—This is the first Mac to ship in a *long* time without an audio in port.
- **PC Card Slot**—This is also the first portable Mac in a while to ship without a PC card slot, although the most common PC card functions are taken care of with the onboard modem and Ethernet.
- **Infrared Port**—It's gone—just like it disappeared from the iMac. And, with the AirPort wireless networking, it won't be missed.
- **FireWire Port**—Just when FireWire makes it to the motherboard, it's missing from the iBook. That means no high-speed data transfers for things such as digital video.

Rubber
To withstand the rigors of backpack storage, the iBook has been surrounded with matte finish rubber. Tangerine and blueberry were chosen for the colors because they looked best in the protective rubber. (Alright, let's keep it clean.) They do not, however, taste like the fruit of the same name. We're hoping that, eventually, more colors will make it to the iBook.

Polycarbonate
Yep, it's the same plastic used in the iMac—and, incidentally, in making bulletproof plastics. This only comes in the color ice, however.

Antenna
The antenna for the AirPort wireless networking system is hidden here in the display frame.

Speaker
The iBook features a single speaker located on the left side of the unit just above the keyboard.

Ports
The iBook sports three input/output ports along the left side, none of which have doors. The ports are recessed inside the case.

- **Ethernet**—The iBook sports 10/100Mb Ethernet in an RJ-45 port—a standard, but still attractive feature.
- **56K modem**—The iBook comes equipped with a 56K modem, just like every other Mac on the market, save the G3 tower.
- **USB**—Cashing in on the trend, the iBook features a USB port—but on the iBook, it's a single port, which can always be expanded with a USB hub.

Audio Out
If you just *have* to have stereo sound, you can plug headphones or speakers into the audio out port.

AirPort Card Slot
Underneath the keyboard (next to the hard drive and RAM) is the slot for the optional AirPort card. Although the slot is similar in shape to a PC card slot, it is a closed standard that works only with the AirPort card.

Display

None of that crappy passive-matrix stuff for the iBook—Apple sprung for a beautiful (if a tad small) 12.1-inch active matrix display.

Hinge

The iBook's hinging mechanism is specially made to keep the iBook open when open, or closed when closed—the two metal nubs in the hinges are part of the clutching mechanism. With this great hinge, the iBook doesn't need a latch to keep it shut.

Graphics Chip Set

The iBook uses ATI's Rage Mobility to power the graphics. This chip has plenty of punch. Too bad the iBook uses a non-upgradable CD-ROM.

Power Key

Push this button, and the iBook comes on. Simple as that!

Power Supply Port

The power supply port has a light-up ring around it that, when the power supply is attached, glows amber when the battery isn't fully charged and green when it is charged.

CD-ROM

The 24X CD-ROM is built into the right side of the iBook and is not removable or upgradable so you can forget about watching DVD movies in study hall.

Keyboard

Much like the PowerBook G3 Series, the iBook keyboard is a full-size keyboard with an almost identical configuration and two latches on the top that, when pulled back, release the keyboard to be pulled off. Underneath, you can get to the hard drive, RAM, and AirPort wireless card slot. A screw between the F4 and F5 keys can be turned to lock the keyboard down.

Touchpad

The iBook's touchpad is shiny silver and can do tap and double-tap (but not soft-shoe!) just like the PowerBook.

Battery

The iBook features an oddly shaped battery (about 1 by 1.5 by 8 inches) hidden underneath a panel secured by two screws. Since the battery has a life of six hours (and can be recharged in about two), Apple didn't feel the need to make the battery easily removable.

Software bundle

Here's the list of software that will ship with the iBook. What a surprise! Most of it is Internet or education software:

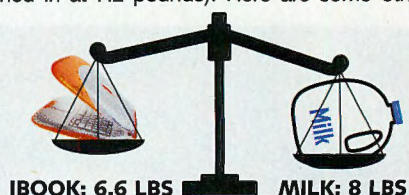
- Mac OS 8.6 with QuickTime
- AppleWorks
- Microsoft Internet Explorer
- Microsoft Outlook Express
- Netscape Communicator
- EarthLink TotalAccess
- America Online
- STF Technologies FAXstf
- Palm Desktop
- World Book Encyclopedia
- EdView Internet Safety Kit
- Adobe Clown Reader (also known as Acrobat Reader)
- Pangea Software's Bugdom
- Pangea Software's Nanosaur

Weight Comparisons

At 6.6 pounds, the iBook weighs a bit more than the new PowerBook G3 with the bronze keyboard (weighing in at 5.9 pounds), but less than the older, thicker PowerBook G3 Series line (which weighed in at 7.2 pounds). Here are some other weight comparisons:

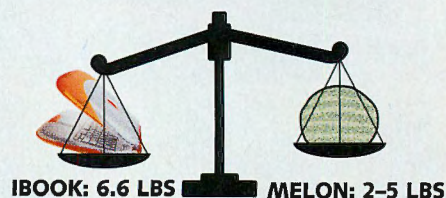
iBook versus a gallon of milk

A gallon of fresh creamery milk weighs in at 1.4 pounds more than the iBook, and is a lot bulkier, too.



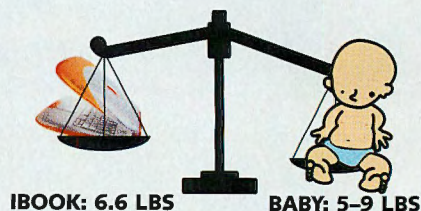
iBook versus a cantaloupe

The iBook weighs more than a melon—or even two or three, if they're small—but it doesn't taste as sweet. Don't leave the iBook in the sun to ripen—you'll be disappointed in the results.



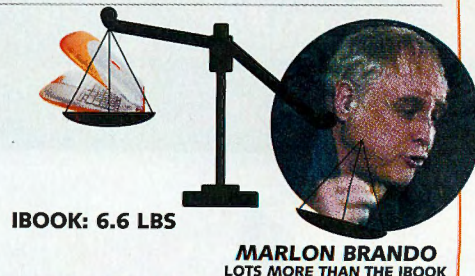
iBook versus a baby

Depending on a number of factors, an iBook may weigh more—or less—than a newborn baby. However, the iBook is probably cheaper in the long run, not to mention easier to hold in a backpack.



iBook versus Marlon Brando

No contest. Marlon Brando beats the iBook. By a ton.



AirPort Network on the Fly

Speed: 11 Mbps (slightly faster than 10baseT Ethernet)

Range: 150 feet, more or less, depending on conditions

Number of connections: Ten iBooks can connect to an individual access point.

Gauges: A control strip gauge on the iBook lets you see how strong the AirPort signal is.

Despite its revolutionary design, unparalleled price, unbeatable battery life, and stellar feature set, there's not a whole lot about the iBook that's new—except for Apple's new AirPort wireless networking, and that's *way* cool. The AirPort wireless networking uses radio frequencies to connect the iBook's AirPort conforms to the IEEE 802.11 standard (with something called Direct Sequence Spread Spectrum). Translated into English, this means that any device that uses that standard can connect to an AirPort network—even PCs. Farallon (<http://www.farallon.com>) will be selling SkyLine, a PC card product that uses the same 802.11 standard as the AirPort and should allow PowerBooks with the SkyLine card to connect to an AirPort network. The SkyLine connection is limited to 2 Mbps—reasonably fast, but not blazing—but it does have a greater range than AirPort (up to 500 feet indoors and up to 1,000 feet outdoors). SkyLine can be used by WinTel notebooks as well, and it should have shipped by the time you read this.

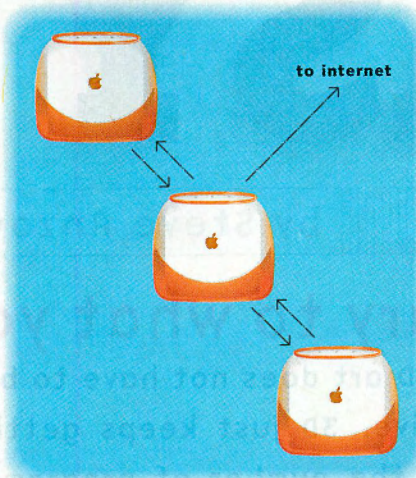
AirPort wireless networking requires a few things to work—AirPort card-equipped iBooks, AirPort Software Access Point software, and an optional AirPort Base Station. Each AirPort card costs \$99, while the AirPort Base Station rings up at \$299. You have to have the AirPort Access Point software to connect iBooks on the network—which you can do much like you would with an Ethernet network.

The network speed is pretty darned impressive: 11 Mbps, or just slightly faster than plain vanilla Ethernet, and that bandwidth is divided among each connected iBook, depending on each Mac's needs—those that need more bandwidth for high-volume network connections (such as streaming) will get a larger share than those that are hardly using the network. Shares of bandwidth can be adjusted on the fly.

There are two ways to set up an AirPort network: either between a group of iBooks (called peer-to-peer, which is great for file sharing or LAN games), or with an AirPort Base Station as the network's hub (great for wireless Internet access). Here are the specifics:

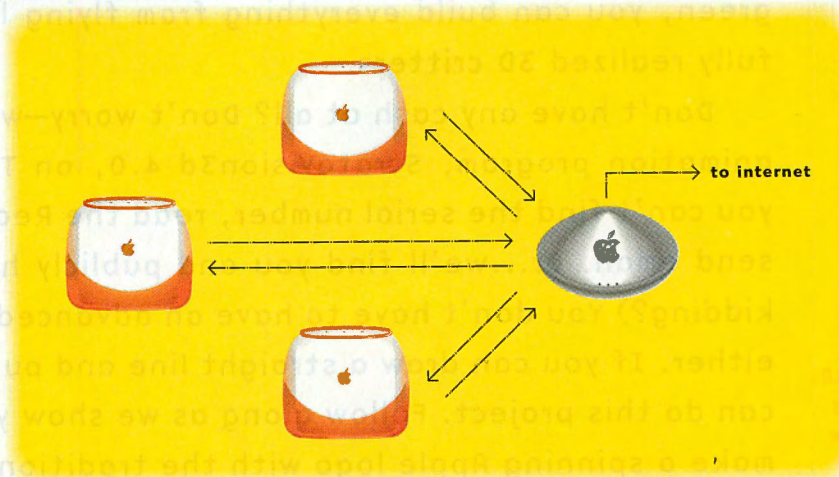
Peer-to-Peer

Setting up a peer-to-peer network is pretty easy. All you need is two or more iBooks with AirPort cards within 150 feet of each other, and you're almost ready to go. The iBook includes a wireless networking setup assistant that will walk you through setting up the network. One iBook can even act as a sort of base station by using its modem to connect to the Internet and then sharing that connection with other iBooks connected to it through its wireless network. This arrangement is great for impromptu LAN games: just get a few of your iBook-toting friends together and get ready to rock.



With a Base Station

The iBook Base Station acts as a hub for iBooks to connect to, and it has its own 56K modem and Ethernet port. This means the Base Station can connect to the Internet via modem, DSL, or cable modem, and can then share that connection with up to nine AirPort-equipped iBooks (the Base Station acts as the 10th item on the network). AirPort Base Stations can be named via software, and multiple Base Stations can be connected to the same network.



10 Cool Things About the iBook

- The iBook uses 144-pin 1.25-inch SDRAM SO-DIMMs, which are different from the PowerBook G3 Series DIMMs.
- The iBook's F7-F12 keys can be programmed to do lots of things such as open applications or even launch AppleScripts.
- The iBook goes to sleep when closed and awakens when opened.
- The iBook has different sleep modes, including a Save & Power Off Now mode in which the contents of RAM are stored in a file on the hard drive—then the iBook shuts down. Waking up from that state causes the iBook to read the contents of that file back into RAM, effectively resuming operation more quickly than a standard Shut Down command.
- The iBook's VRAM isn't upgradable—it's embedded into the Rage Mobility chip set.
- The AirPort card can be turned off when not in use to save power or when on an airplane.
- AirPort wireless communications are made secure with 40-bit data encryption to prevent eavesdropping.
- The sleep light on the back of the iBook slowly pulses (rather than blinks) to indicate that the 'Book is sleeping.

David Reynolds wishes that the iBook tasted like its name—at least for the tangerine iBook. He's not terribly fond of blueberries.



3D

VISUAL GUIDE TO EASY 3D

by Steve Anzovin and Raf Anzovin

Contrary to what you may think, creating 3D art does not have to be extraordinarily difficult or expensive. 3D just keeps getting cheaper, easier, and better as the number of programs under \$300 proliferate like, um, computer-generated flies. For a modest outlay of green, you can build everything from flying logos to sci-fi terrains to fully realized 3D critters.

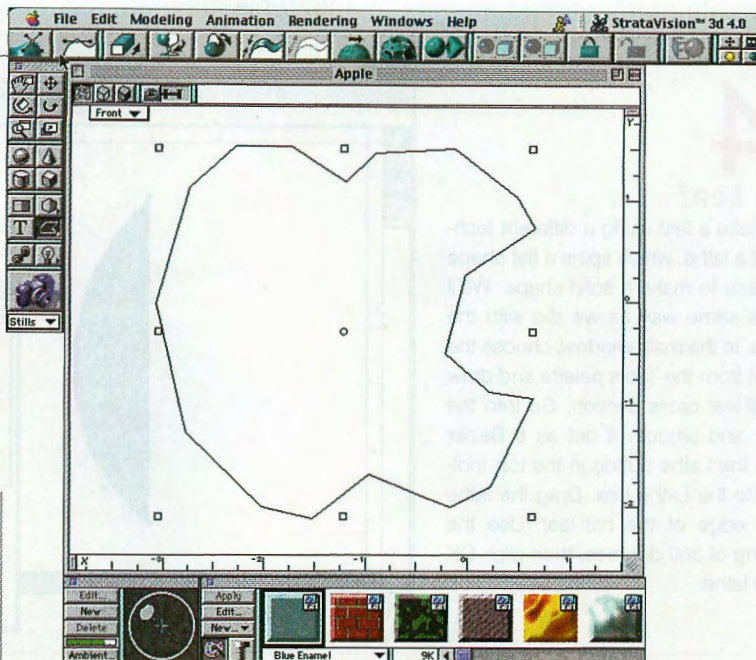
Don't have any cash at all? Don't worry—we've put a totally free 3D animation program, StrataVision3d 4.0, on The Disc for you. (Hint: if you can't find the serial number, read the Read Me. Don't call us. Don't send email. Or...we'll find you and publicly humiliate you. Think we're kidding?) You don't have to have an advanced degree in digital design, either. If you can draw a straight line and push the right buttons, you can do this project. Follow along as we show you, step by step, how to make a spinning Apple logo with the traditional rainbow stripes.



FIND A FULL
WORKING
VERSION of
StrataVision3d 4.0
on The Disc, plus
3D Invigorator for
Photoshop!

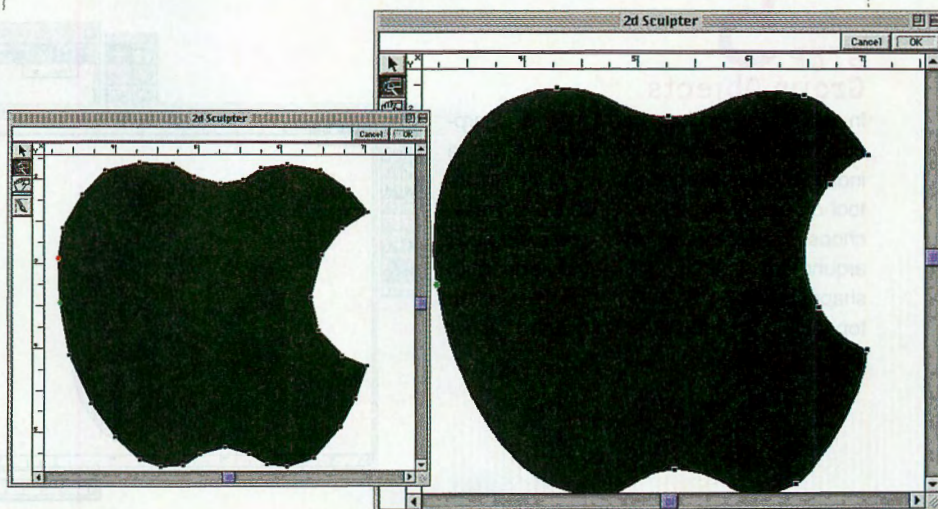
STEP 1 Draw an Apple

After you've installed StrataVision3d 4.0 from The Disc, open the program and create a new file by choosing New from the File menu. You'll see the main window, with a toolbar at the left. Select the Polygon tool from the Tools palette and outline a rough apple shape by drawing lines and clicking whenever you want to change direction. Double-click to complete the outline.



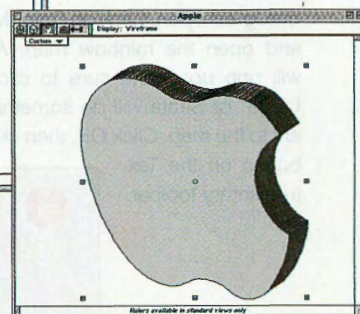
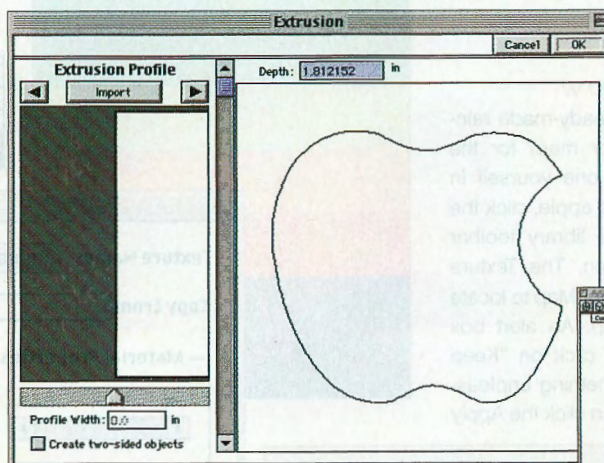
STEP 2 Refine the Apple

Now the apple needs some refinement. Click on the 2D Sculptor button in the top toolbar, or choose 2D Sculptor from the Modeling menu. You'll want to add a few more intermediate points to smooth out the outline; Option-click to add points. For the final editing of the outline, convert it to Bezier splines by choosing Convert to Bezier from the Options menu. Drag the points and their control handles around until the apple outline looks nice and smooth. Option-clicking will give you even more control points, if you need them. Then exit the 2D Sculptor by pressing the OK button.



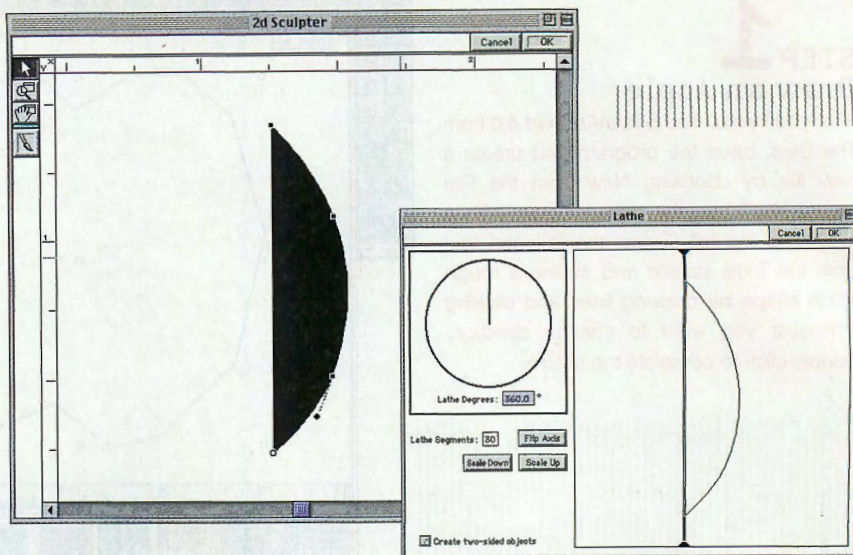
STEP 3 Extrude the Apple

Once the outline is completed, we need to pop it out into 3D space. The operation we'll use is called an extrude, and it's a little like squeezing dough through a pasta machine. Make sure your apple shape is selected in the main window, then press the Extrusion button on the top toolbar to enter the Extrusion editor. You can use the default extrusion settings (a square-edged extrusion). Click OK to apply the extrusion and return to the main window. To see the model at an angle, click the Rotate View button on the Tools palette and drag one of the side handles a bit. To see the model with some shading, click on the Shaded View button at top left of the window.



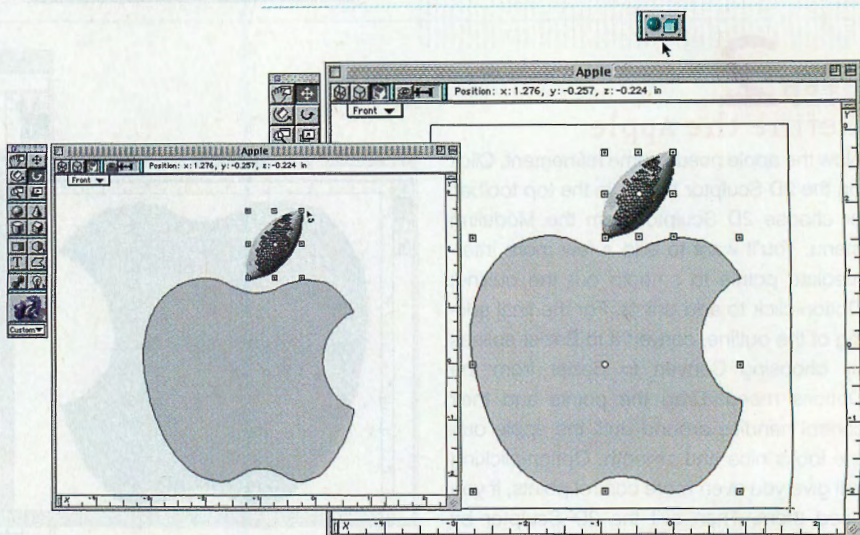
STEP 4 Make a Leaf

Now we'll make a leaf using a different technique called a lathe, which spins a flat shape around an axis to make a solid shape. We'll start out the same way as we did with the apple shape. In the main window, choose the Polygon tool from the Tools palette and draw a rough half-leaf cross section. Go into the 2D sculptor and smooth it out as a Bezier curve. Click the Lathe button in the top toolbar to go into the Lathe box. Drag the lathe axis to the edge of the half-leaf. Use the default setting of 360 degrees, then click OK to apply the lathe.



STEP 5 Group Objects

In the main window, you'll see a sharp-ended, cigar-shaped leaf. Position it at the indent of the apple and tilt it using the Rotate tool on the Tools palette. Once it's in place, choose the arrow tool, draw a bounding box around the apple and the leaf to select both shapes, and choose the Group tool from the top toolbar to group the two shapes together into one object.



STEP 6 Apply the Rainbow

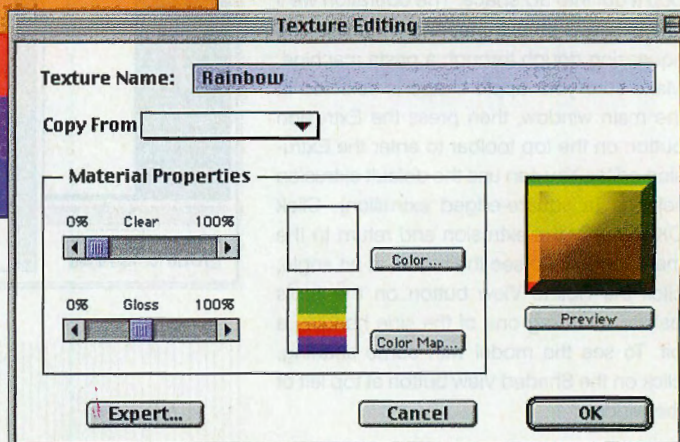
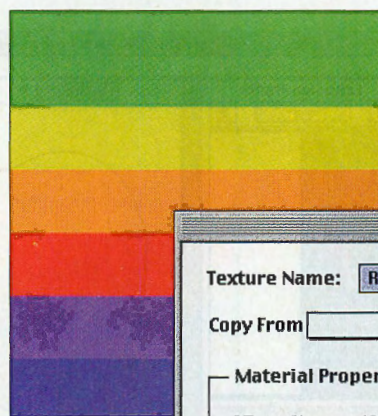
On The Disc, you'll find a ready-made rainbow picture (called a color map) for the Apple. Or you can create one yourself in Photoshop. To apply it to the apple, click the New button on the Texture library toolbar at the bottom of the screen. The Texture dialog will open. Click on Color Map to locate and open the rainbow map. An alert box will pop up: make sure to click on "Keep Large" or Strata will do something unpleasant to the map. Click OK, then click the Apply button on the Texture library toolbar.



This image exceeds the recommended storage requirements of 256 KBytes. It should be reduced to a smaller size.

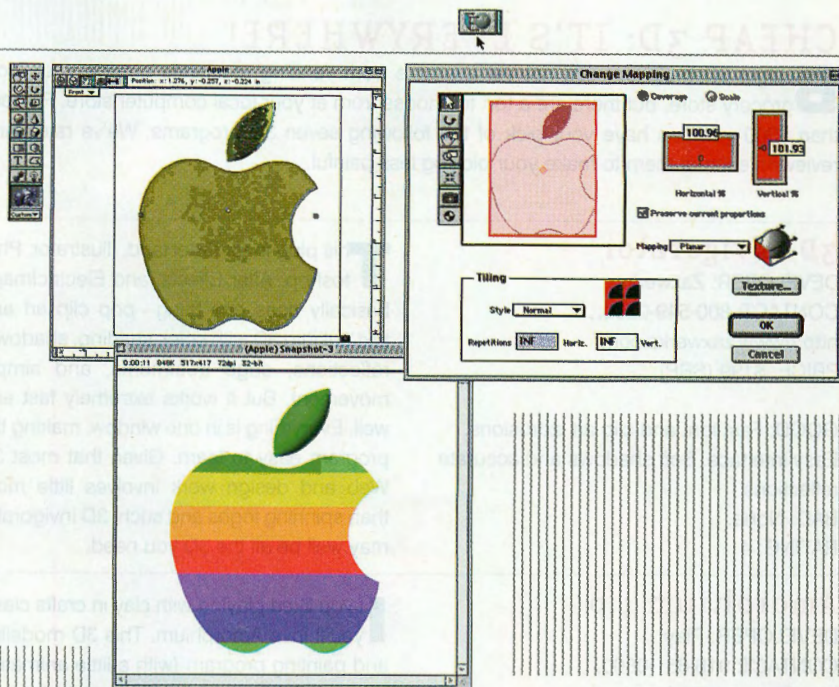
Keep Large

Reduce



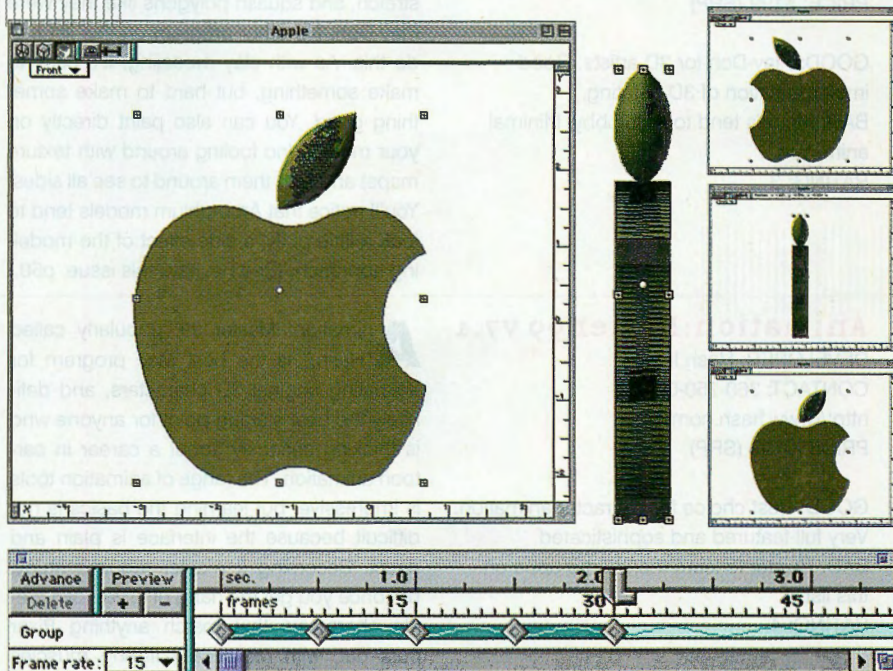
STEP 7 Adjust the Color Map

Now do a test render of the apple. Click on the camera in the Tools palette, then draw a box around the entire apple. If the Render Settings dialog pops up, just click OK for now. In our example, the color map isn't positioned exactly right—a little green color edges up from the bottom where it doesn't belong. If this happens to you, you can change the color map position. Make sure the apple model is selected, then click the Remap button on the top toolbar. In the Change Mapping box, drag the red outline around the apple to adjust the position the map is applied from.



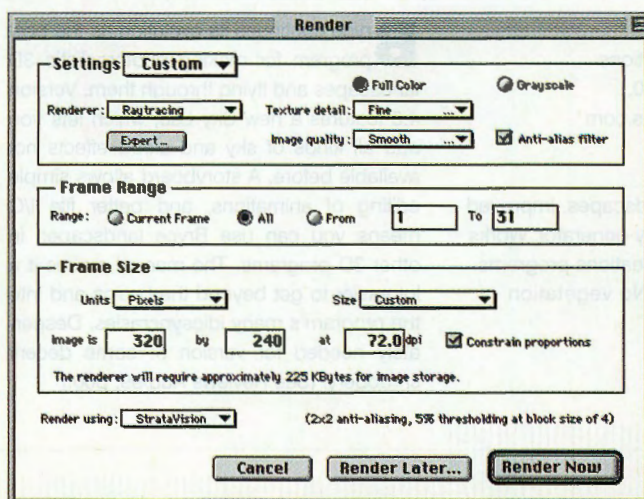
STEP 8 Animation

For the final act, let's make the apple rotate around its vertical axis. Open the Animation timeline by choosing Show Animation Palette from the Windows menu. Make sure you're looking at the apple from the front view. Move the time marker on the animation timeline to the 1/2-second mark. Choose the Rotate tool from the Tools palette and carefully pull the left edge of the apple toward you, rotating the model 90 degrees so you see it from the side. Vision3D will place an event marker (called a keyframe in other programs) at that point in the timeline. Now rotate the apple another 45 degrees every 1/2 second until the apple comes back to its original position.



STEP 9 Render a Movie

Time to render! Choose Render from the Rendering menu. Set up everything as shown, using Raytracing as the renderer (the highest quality), and making sure that "All" is selected in Frame Range. (Your image size may be somewhat different, but don't worry about that.) Save the render as a QuickTime movie. Now sit back and let your mind wander as Vision3D outputs your very own spinning rainbow apple.



CHEAP 3D: IT'S EVERYWHERE!

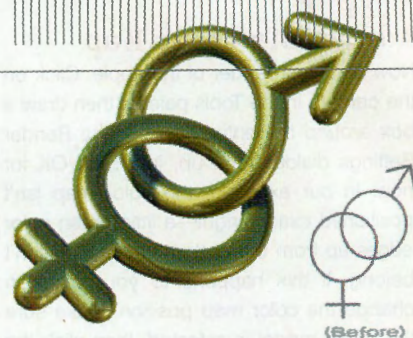
Budget 3D programs are not yet available from vending machines outside your local grocery store, but there are a ton to choose from at your local computer store. For less than \$300 you can have your pick of the following seven 3D programs. We've rated and reviewed each of them to make your picking less painful.

3D Invigorator

DEVELOPER: Zaxwerks
CONTACT: 800-549-0250,
<http://www.zaxwerks.com>
PRICE: \$199 (SRP)

GOOD: Fast font and clip art extrusions.
Easy interface. Soft shadows and accurate reflections.
BAD: None.
RATING: 4

This plug-in for FreeHand, Illustrator, Photoshop, After Effects, and ElectricImage basically does one thing—pop clip art and text out into 3D with color, shading, shadows, reflections, edge treatments, and simple movement. But it works extremely fast and well. Everything is in one window, making the program easy to learn. Given that most 3D Web and design work involves little more than spinning logos and such, 3D Invigorator may well be all the 3D you need.



3D INVIGORATOR OFFERS SIMPLE, fast, and easy extrudes of clip art and text.

Amorphium 1.0

DEVELOPER: Play
CONTACT: 916-851-0800,
<http://www.amorphium.com>
PRICE: \$199 (SRP)

GOOD: Play-Doh for 3D artists. Good implementation of 3D painting.
BAD: Models tend to be blobby. Minimal animation.
RATING: 3

If you liked playing with clay in crafts class, you'll love Amorphium. This 3D modeling and painting program (with a little animation thrown in) lets you squeeze, mold, stamp, stretch, and squash polygons like they were Play-Doh. No other program on this list can do this. As with clay modeling, it's easy to make something, but hard to make something *good*. You can also paint directly on your models (no fooling around with texture maps) and spin them around to see all sides. You'll notice that Amorphium models tend to look a little puffy, a side effect of the modeling approach. (See Reviews this issue, p50.)



PLAY GIRL KIKI STOCKHAMMER poses for an Amorphium portrait.

Animation:Master 99 v7.1

DEVELOPER: Hash Inc.
CONTACT: 360-750-0042,
<http://www.hash.com>
PRICE: \$199 (SRP)

GOOD: Best choice for character animation. Very full-featured and sophisticated.
BAD: Harder to learn than some apps on this list.
RATING: 4

Animation: Master 99, popularly called "Hash," is the best Mac program for animating original 3D characters, and definitely the best starting point for anyone who is thinking seriously about a career in cartoon animation. The range of animation tools is impressive, but learning the basics is not difficult because the interface is plain and direct. Becoming a master requires study, but once you get the hang of it, you can create characters that match anything Pixar puts out, with realistically flexing muscles and anatomically correct movements.



DENNIS GETS DOWN with Hash's Animation: Master 99.

Bryce 4

DEVELOPER: MetaCreations
CONTACT: 805-566-6200,
<http://www.metacreations.com>
PRICE: \$199 (SRP)

GOOD: Spectacular landscapes. Improved animation tools. New sky generator. Works better with other MetaCreations programs.
BAD: Quirky as heck. No vegetation generator.
RATING: 4

Bryce continues its evolution as the best program for making photorealistic 3D landscapes and flying through them. Version 4.0 features a new Sky Lab, which lets you add all kinds of sky and cloud effects not available before. A storyboard allows simple editing of animations, and better file I/O means you can use Bryce landscapes in other 3D programs. The manual makes it a lot easier to get beyond the basics and into the program's many idiosyncrasies. Desperately needed for version 5: some decent shrubbery. (See Reviews Aug/99, p60.)



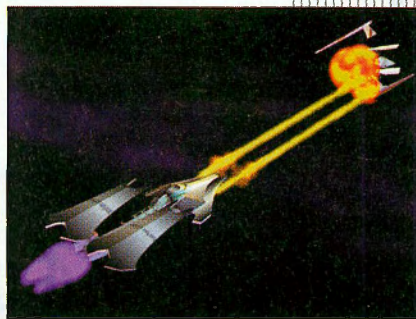
THIS LAKESIDE SCENE by Jonathan Foerster is just the sort of moody landscape possible with Bryce 4.

Raydream 3D

DEVELOPER: MetaCreations
CONTACT: 805-566-6200,
<http://www.metacreations.com>
PRICE: \$99 (SRP)

GOOD: Everything's drag-and-drop. Wizards make it easier to create models and scenes. 750-model library.
BAD: Modeler and renderer are not great.
RATING: 3

RayDream is MetaCreations' rock-bottom 3D product, but it's a good beginner's tool. Most operations can be performed by simple drag-and-drop, including putting textures on models and adding models and lights to scenes. Animation behaviors (such as spins) can be dropped onto any of the 750 supplied models. Wizards help the learner do the basics, such as model simple shapes, choose backgrounds, and set up lighting schemes. When you graduate from needing wizards, RayDream 3D's tools are underpowered and the program is slow, but for \$99, it's a good start.



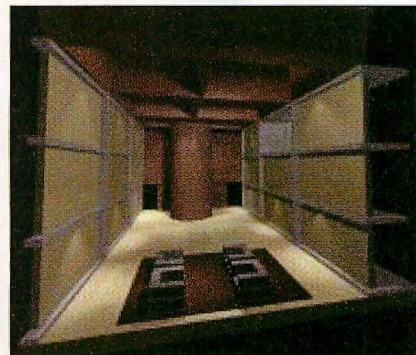
THIS RAYDREAM 3D SPACE SCENE was created using Rayflect, a RayDream plug-in for flares.

3D World 3.0

DEVELOPER: Microspot
CONTACT: 800-622-7568,
<http://www.microspot.com>
PRICE: \$249 (SRP)

GOOD: Fast and easy to learn. Excellent use of QuickDraw 3D. New 3D paint.
BAD: Primitive modeling. Limited animation.
RATING: 2

3D World was the first completely QuickDraw 3D-native application, and it's still the only one, which tells you something. It's easy to place ready-made objects from 3D World's libraries into scenes by dragging and dropping them, which is good, because the modeler is fairly primitive. You can paint on models with 3D World 3.0's new paint tools and use the program within Photoshop with the new plug-in. But you need a QuickDraw 3D accelerator board to see textures, shadows, and transparencies.



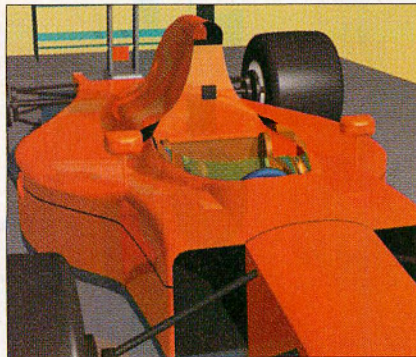
3D WORLD IS BEST for architectural scenes.

Amapi 3D v 4.1.5

DEVELOPER: TGS
CONTACT: 877-770-2530,
<http://www.yonowat.com>
PRICE: \$299 (street)

GOOD: Unusual modeling capabilities; good for complex organic shapes.
BAD: Bizarre interface. Poor rendering.
RATING: 2

Amapi ("I'm happy!") is an odd-looking program for creating 3D models and making simple animation. Underneath the nonstandard interface, which works like no other software on earth, is a huge amount of modeling power; once you attain proficiency, you can create shapes with Amapi that are quite hard if not impossible to make in other programs. The animation tools are minimal, though, and Amapi's own renderer makes everything look like plastic. A good choice for serious model builders who don't mind learning a whole new way of working.



THE COMPLEX CURVES OF THIS RACER are Amapi's specialty.

GOTCHER 3D HERE

Here are a few of the 3D-related sites we visit most often. Check these to find basic and advanced tutorials on 3D, animation, and special effects; lots of downloadable images, objects, and animations; and lists of organizations, schools, festivals, and jobs.

www.3dsite.com/3dsite

3D Site is the jumping-off point for any 3D newbie. It links to scores of other 3D-related Web areas, boasts lots of FAQs, and has comprehensive school, organization, and job listings.

www.3dark.com

3D Ark is another good all-purpose 3D site. It offers object, image, and animation collections; forums; and tons of links.

www.3D-design.com

This is the Web complement to the top magazine for 3D artists. Tutorials range from the simple to the very complex.

www.VFXPro.com

The VFXPro site runs fascinating interviews with the top 3D animation and effects people in Hollywood. You may not be in that league, but it's cool to read about it. Download exclusive clips from the latest effects films and study up.



clones

TURN YOUR CLONE INTO A

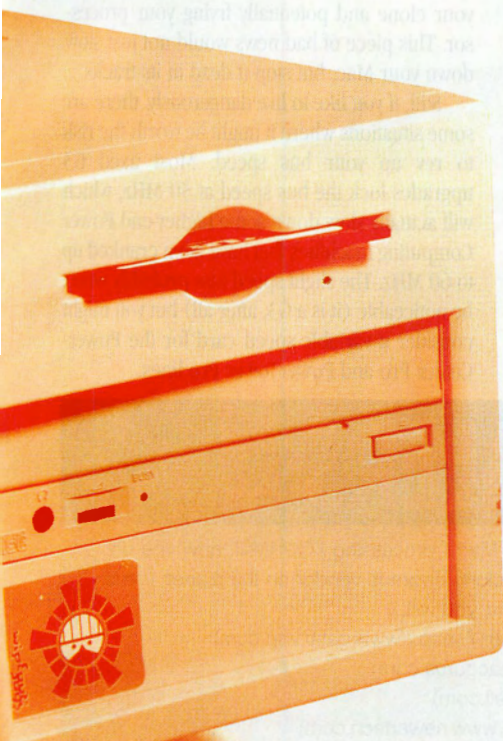
G3

WITH MACADDICT'S 7-STEP
SYSTEM

FIGHT

PHOTOS BY AARON LAUER

BY TODD A. STAUFFER



BACK FOR YOUR MAC



CLONE

Don't think of your Mac clone as a failure. Remember, your once-worshiped Mac knock-off used to be hell on wheels back when Power Computing was almost single-handedly putting Apple out of business with its superfast machines. Just because Apple couldn't take the heat and had to pull the cloning licenses of such companies as Power Computing, UMAX, Motorola, and Radius doesn't mean you should feel any less proud of your Mac clone now.

In fact, in just seven simple steps you can turn your tottering old clone into a speed machine loaded with all the luxuries of a modern-day G3, and then some. And, just to cheer you up, we'll throw in a few stories of some even less-successful cloning efforts—misery loves company, right?

Don't get too depressed—even though the clone war is over and you lost, your little Mac hack still has some fight left in it. So, rally the troops. Prepare your weapons. It's time for a MacAddict makeover!

1

Up Your Processor (Hey, Up Yours, Too!)

You can't expect your clone to compete if you don't upgrade its processor to a G3. Though expensive, it's the single most effective step in this transformation. Every clone has G3 potential, but how you go about reaching it depends on whether your logic board is a Tanzania or a Tsunami model. Tanzanami? Huh? Let us explain.

Apple originally licensed the Tanzania logic board (the not-so-distant cousin of the Power Macintosh 4400 logic board) to Motorola for its StarMax line. Motorola then sublicensed it to companies like PowerTools, APS Technologies, and MacTell. (UMAX also had a couple of Tanzania-based machines.) The Tanzania logic board has the processor soldered right on to it, making it tough to upgrade. Fortunately, a few companies offer "upgrade challenged" processor upgrades that you can add to these machines via the L2 cache slot. Card speeds range from 225MHz to 400MHz, and prices range from \$300 to \$800 accordingly. To install the upgrade, just pull out your cache RAM SIMM (it's right there on the logic board) and plug in the processor card. Install the software and you've got a G3.

If you're lucky enough to have a clone that's sitting pretty on a Tsunami logic board, such as a Power Computing PowerTower or Power-Center, you've got tons of upgrade options. The Tsunami logic board was used in Apple's Power Macintosh 9500 and 9600 systems, which are

still considered to be among the company's most upgradable and expandable machines ever made. The clones based on this board often feature room for buttloads of RAM and up to six PCI slots, as well as a daughtercard-based processor. Daughtercards are cool because the CPU actually sits on an expansion card that can be easily removed and swapped for a faster model.

The big question with daughtercard G3 upgrades is, should I get a fixed or variable speed upgrade? With variable speed cards, you can alter the system bus speed on your Mac to give the processor a little boost. But, on the flip

side, you also run the risk of *really* firing up your clone and potentially frying your processor. This piece of bad news would not just slow down your Mac, but stop it dead in its tracks.

Still, if you like to live dangerously, there are some situations where it might be worth the risk to rev up your bus speed. Most fixed G3 upgrades lock the bus speed at 50 MHz, which will actually slow down some higher-end Power Computing machines that have been cranked up to 60 MHz. The slight speed loss probably won't be noticeable (it is a G3, after all) but you might consider a variable-speed card for the Power-Center Pro and PowerTower Pro lines.

SPEED DEALERS

Don't know where to go to raise your Mac's processing I.Q.? Well, now you do. Here's a list of just about every Mac clone upgrade vendor on the planet. If you can't find something here, well...don't worry, you will.

- Galaxy Hardware Publishers (888-345-1817, <http://www.galaxyhp.com>)
- Mac Gurus (800-775-3726, <http://www.macgurus.com>)
- MacTell (888-622-8355, <http://www.mactell.com>)
- Newer Technology (888-656-8324, <http://www.newertech.com>)
- Other World Computing (800-275-4576, <http://www.fastermacs.com>)
- PowerLogix (505-857-0353, <http://www.powerlogix.com>)
- Shreve Systems (800-227-3971, <http://www.shrevesystems.com>)
- Sonnet Technologies (800-786-6260, <http://www.sonnettech.com>)
- Vimage (877-484-6243, <http://www.vimagestore.com>)
- XLR8 (888-957-8867, <http://www.xlr8.com>)

FAILED CLONE CASE #1



Back when Steve Jobs first returned to Apple to save the struggling company, there was so much to be done that he tried to clone himself to help speed up the turnaround. Unfortunately, the second Steve was more an opposite than a duplicate, and he was often seen running around the Apple campus laughing and joking with the employees while eating Burger King bacon double cheeseburgers. When the original Steve caught wind of this, he immediately fired his clone—who now works as a secret shopper for Jack-in-the-Box.

2

Just Add RAM

In order for your Mac to support all of the G3's fancy frills and features, you'll need to bulk up on RAM. Early clones that feature a PowerPC 601 processor (that's the Power series from Power Computing and the entire Radius line of clones) accept 80ns, 72-pin SIMMs (Single Inline Memory Modules). They're the only machines that use SIMMs; other clones all feature DIMMS (Dual Inline Memory Modules).

Most 603- and 604-based clones accept either 60ns or 70ns, 168-pin DIMMs, usually in the Fast Page variety. Check your documentation carefully, because many DIMMs sold today are EDO RAM, which isn't often necessary in clone machines. EDO won't hurt your machine, but if you mix EDO and Fast Page, it will act like

Fast Page anyway and you don't get the slight EDO speed boost. Also check NewerRAM's online RAM GURU—the Guide to RAM Upgrades—for the skinny on your particular clone model (<http://www.newerram.com>).

If you've skipped the G3 upgrade, you'll at least want to make the cache bigger. Consider adding more cache or a larger Level 2 cache SIMM (or DIMM) to your machine. Many clones shipped with 256K or 512K cache that can be upgraded to about 1MB, giving you a bit of an edge on your competitors. You can buy both cache and RAM upgrades from many of the same distributors who sell processor upgrades. See "Speed Dealers" for all their 411.

3

Update your drivers

If you try to install a new version of the Mac OS and wind up with random errors and crashes, you should check under the hood—it's likely you're working with some bad drivers. Many clones ship with third-party hard disk drivers from FWB's Hard Disk Toolkit. If you're using these now, you should update to the latest version available before upgrading to any Mac OS. Then, whenever you update the OS, check for an update from FWB. And, while installing the Mac OS upgrade, *don't* choose to Update Hard Disk Drivers because it doesn't work with clones.

You might try switching to Drive Setup (Apple's own disk drivers and utility software) for overall compatibility with Mac OS 8.6 or higher. This won't work for everyone, so remember to backup everything before using Drive Setup to initialize your drive.

Although most clones can use the Apple CD-ROM drivers in Mac OS 8.6 and higher without any major problems, many users have reported trouble listening to audio CDs because of wonky CD-ROM drivers. If this happens, you might want to selectively install an updated version of the FWB CD-ROM Toolkit drivers that came with your clone. In some cases, you can get the update from FWB (<http://www.fwb.com>). The second best plan is to revert to AppleCD 3.5.1, which came with Mac OS 7.6. Many clone users report success with that version of the driver, if you can get it.

Is your clone complaining that the CD-ROM drivers are already loaded? Then get that Mac OS CD out of the CD-ROM drive! If it's in there, your clone machine is trying to load two different CD-ROM drivers, hence the complaints.

4

Upgrade to Mac OS 8.6

When upgrading your Mac or clone, you always want to have the latest Mac operating system that your machine will support. Unfortunately, since Apple quit officially supporting clones, upgrading the OS on a non-Apple-branded Mac has become something of a crapshoot. Mac OS 8.6 works fine. Will Mac OS 9? Probably. Mac OS X? We strongly doubt it.

Although it's unlikely that Mac OS X will run on your clone since it won't support the

components that make up older Macs, there may be a way around it. In the past, some Mac OS versions have been successfully installed on aging machines thanks to shareware solutions that allow you to spoof the identifying number on your Mac, effectively fooling the installer into believing your Mac is a newer model. It's also possible that G3 upgrade vendors will find a solution to upgrading G3 card-based machines. Bottom line: Don't get your hopes up, but don't give up hope, either.

5

Plug into USB

USB is the *it* thing these days, replacing serial and ADB ports with 12-megabit-per-second speed, hot-plugability, and the opportunity to hook up 127 USB devices at once. (Believe it or not, it was done by certified Mac nerds at this year's Apple Worldwide Developer's Conference.) Apple made the switch from serial to USB so that Mac users could have access to just as many peripherals, and the same peripherals, as PC users. And, well, now we do.

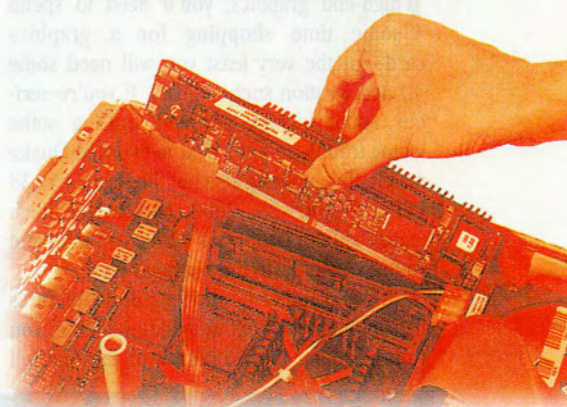
If you want to hook your clone up to every new candy-colored peripheral that hits the

shelves, you can add USB to your PCI-based Mac clone with Keyspan's \$49 USB Card (510-222-0131, <http://www.keyspan.com>). Slap in the PCI card, run Mac OS 8.5.1 or higher, and you've got USB. (Warning to Mac OS 8.6 users: the Keyspan USB card does not play nice with your particular system. The company is working on a fix, but until a software patch becomes available you'll either need to hold off on adding USB or run Mac OS 8.5 or later.) Adding USB is a great idea if you think you will eventually upgrade to a newer Apple Mac and you want to Buy USB devices now.

FAILED CLONE CASE #2



Late one night, long after everyone else had gone home, Dave Reynolds was part of a terrible MacAddict Lab accident that resulted in a mutant version of *MacAddict*. While experimenting on a joke for the Shutdown section, Dave knocked a bubbling beaker of scary-looking liquid onto a copy of *MacAddict*, creating...*Mini-MacAddict*. The new size was tried out on the newsstand for only a week before cranky readers complained that the small type was even harder to read than in the gaudily designed original.



FAILED CLONE CASE #3



History's most notorious cloning incident occurred when Microsoft tried to duplicate the look and feel of the Macintosh operating system. When it was starting to seem as though evil had prevailed, Windows 95 was revealed to be a fraud in Nikki Echler's non-Pulitzer Prize winning exposé, "Stand By Your Mac: 25 Reasons Why the Mac is Better than a PC" which appeared in the premiere issue of *MacAddict*.

6 Speed up to FireWire

USB gives you options, but FireWire gives you speed. USB peripherals, though ubiquitous, tend to be sluggish. FireWire, on the other hand, lets you input high-bandwidth data at 400 megabits per second. You add it to your clone with a handy little PCI card—just like with USB, but more expensive. FireWire cards range in price from \$179 to \$1,000.

Digital Origin (800-572-3487, <http://www.digitalorigin.com>), Adaptec (408-945-8600, <http://www.adaptec.com>), and Orange Micro

(714-779-2772, <http://www.orangemicro.com>) all make cards that let you add FireWire via an empty PCI slot. Plug in the card, run the software and Mac OS 8.5.1 or higher, and you've got high-speed "serial SCSI". And, you'll be glad you have it if you're transferring digital video files from DV cameras or connecting to small, bus-powered, pocket-sized hard drives such as VST's portable FireWire drives. More removable drives, including CD-RW, are expected to take advantage of FireWire soon.

7 Hit the graphics accelerator!

If you're looking to speed up gaming or high-end graphics, you'll need to spend some time shopping for a graphics card—at the very least you will need some 3D acceleration such as 3Dfx. If you're serious about kicking ass and causing some major trouble in your next networked Quake match, then nothing else but the Rage Pro 128 PCI card (905-882-2600, <http://www.atitech.com>) will do. Drop your \$200, slap it in, and you're playing with the big boy's toys.

If you'd rather be drawing pretty pictures than blowing away your buddies online, you can speed up the process with the MacTell

Vision 3D Pro II card. For about \$400 you'll see a significant boost in your Photoshop redraw and still get the advantage on your quick draw if you just can't resist joining the fray.

On a budget? Aww, poor you. Try the MicroConversions Game Wizard Voodoo2 card (877-986-4276, <http://www.microconversions.com>), which runs about \$150 on the street. The card offers Voodoo acceleration that passes through and uses your onboard video for 3D tasks so Myth II graphics look killer!

Todd A. Stauffer really knows his clones.

FAILED CLONE CASE #4



A bunch of greedy kids from Delta, Ohio, tried to create a clone of a gumball at 300 times its original size. They were shocked to find that what they had created was actually a small, inexpensively priced, consumer computer that Steve Jobs quickly stole and claimed as his own. Although it was not an edible success, it was a financial one—the iMac turned out to be the saving grace for the once-beleaguered computer company.

FAILED CLONE CASE #5



James Van Der Beek is hot, hot, hot! When the MacAddict staff was shopping around for a mascot in mid-1996, we thought cloning him would be cheaper than actually hiring him full time. Unfortunately, someone cut a few corners on the cloning machine, and we wound up with Max, who is, after all, pretty hot for a stick figure.

COST COMPARISON



Blue G3 Tower

400MHz G3 Processor
64MB of RAM
Rage 128 Pro Graphics
12GB hard drive

Firewire
USB ports

Total: \$2,500



Equivalent Clone Upgrades

G3 Upgrade Card=\$699-\$799
32MB SIMM/DIMM=\$69-\$89
Rage 128 Pro Upgrade Card=\$199
8.4-9.1GB SCSI drive or
12.7GB IDE drive=\$239 or \$399
FireWire upgrade card=\$200
Keyspan USB Card=\$49

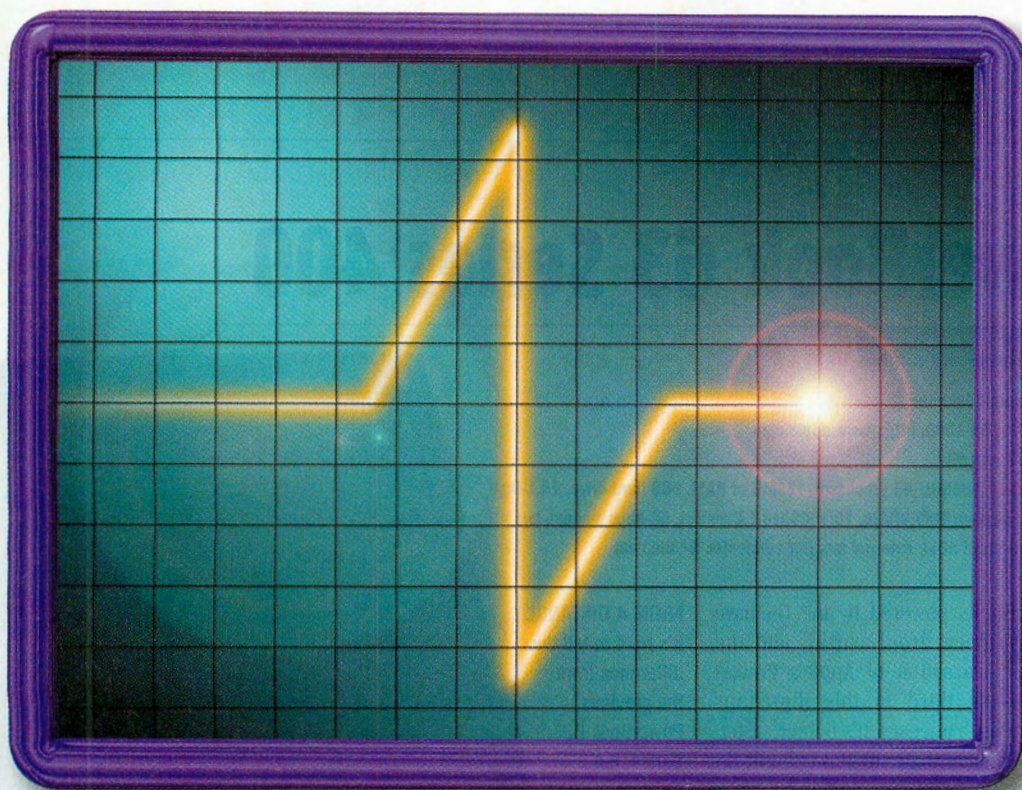
Total: \$1,455-\$1,735

Ok, so looks aren't everything. Your revamped Mac may look like the ugly duckling you started with, but it's jam-packed with all the inner grace of a glowing G3. Is the price for perfection too high?

If you're lucky, you can get away with a cheap, big IDE drive and a cheaper G3 upgrade, depending on your system. That's \$1,434 for full blue-and-white G3 specs. At the high end, you may be forced to upgrade the hard disk with a SCSI version, which ain't cheap. For really fast SCSI hard drive action, an Adaptec Ultra2 SCSI card and a pair of Seagate 9GB Cheetah drives will set you back another \$1,500.

All in all you'll have 8 fewer megabytes of video RAM on your Rage 128 card, and your CD-ROM drive will be a little slower. However, with the money you'll save by sticking with your old clone, you can buy a CD-RW drive, new game controllers, or cool external SCSI peripherals. After all, your clone has stuff the blue-and-white G3s can only dream about—external SCSI, ADB, serial ports, and, if you've added Rage 128, two-monitor support.

There's only one utility in the world that does more for your Macintosh than TechTool Pro 2...



Introducing TechTool Pro 2.5

MicroMat's disk repair and Macintosh troubleshooting utility just became a whole lot better. Loaded with new features like Trash Cache™, which allows you to resurrect files you've accidentally deleted. Or our new Automated Diagnostic feature that checks your drives at the time intervals you specify, so you're always sure your drives are in top shape. TechTool Pro 2.5 even now supports new technologies like FireWire drives, USB floppy drives, System 8.6, all of the latest Macs and much more. But the real power of TechTool Pro 2.5 isn't in the features

you can see, it's in the features you can't see. Like a multitude of new drive repair routines that can save data that other utilities would simply abandon. An improved recovery system that will find lost files in the darkest caverns of a damaged drive. You'll also find improved performance on key features like disk optimization. But maybe the feature you'll find most interesting about this version is the price: FREE*. If you own any version of TechTool Pro 2, just go to our web site and grab the updater. You'll be glad you did.

MicroMat Inc.
800-829-6227
707-566-3831
FAX: 707-566-3871
info@micromat.com
www.micromat.com



Fix different.™

See us at MacWorld Expo New York at Booth #1707



*Version 2.5 is available at no charge to registered TechTool Pro 2 users as an updater application directly from the MicroMat web site. If you do not wish to download the updater or would prefer a new CD, they can be purchased for \$25 plus tax, shipping and handling by calling the phone number above. Please have your serial number ready when calling. Prices subject to change without notice.
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reviews

Why Go Back To School When You Have All This Cool Mac Stuff?

PowerBook G3 Series 400

HARDWARE

COMPANY: Apple Computer

CONTACT: 800-795-1000, <http://www.apple.com>

PRICE: \$3,577 (street)

SPECIFICATIONS: 400MHz G3 processor, 128MB of RAM, 6GB hard drive, 14.1-inch active-matrix display, 8MB VRAM, 10/100Base-T Ethernet, 56-kbps modem, two USB ports, on-board SCSI, external monitor connector, S-Video out



FREAKIN' AWESOME

The most valuable products, the coolest gizmos.



SPIFFY

A solid offering. Overall a good investment.



YEAH, WHATEVER

A few good features, but generally a waste of time and money.



BLECH!

We hate to even blotch our pages with the thing.

PowerBooks powered by the G3 have always been drool-worthy, and the latest incarnation of Apple's PowerBook G3—the third in this illustrious line—upholds that legacy. It's lighter, faster, and more efficient than any PowerBook G3 that has come before it, and it sports a pretty slick variation on the sleek industrial design of previous 'Books. It even features a spiffy light-up Apple logo on the casing behind the LCD. While there isn't any single earthshaking change over the previous PowerBook G3 Series incarnations (you need a score-card to tell them apart and the model names don't help much), there are lots of little improvements to this next-generation portable that make it worth getting a little excited about.

Apple has been listening to its PowerBook customers. First, it has changed the physical PowerBook by making it

FROM A DISTANCE, it's hard to tell the difference from the previous PowerBook G3 Series, but up close...

smaller and lighter.

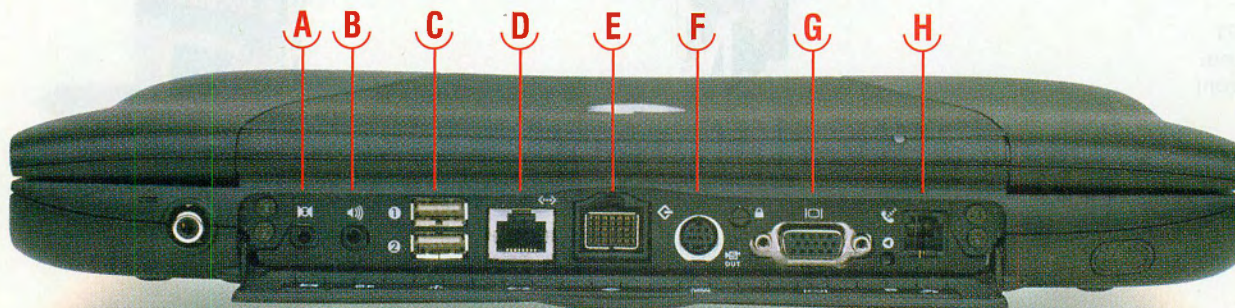
It has reduced the weight of the PowerBook G3 Series to a luggable 5.9 pounds (down by 2 pounds), and it has reduced the unit's thickness by about 20 percent. While the weight can be further reduced by pulling out the CD-ROM drive

and replacing it with an empty slug (provided with the PowerBook), there's not much that can be done about the 'Book's height and width dimensions. In order to accommodate the gorgeous 14.1-inch LCD, Apple had to keep the case at 12.7 by 10.4 inches—just a little too big for the tray tables on most airline coach seats.



Photographs by Aaron Laufer

ALTHOUGH THE CASE LOOKS the same, the ports have changed. Here's the scoop:



A: Sound in
B: Sound out
C: USB
D: Ethernet
E: SCSI
F: S-Video out
G: SVGA video out
H: Modem

Apple has also added true second monitor support to the latest PowerBooks, and it works like a champ—or at least like you expect it to. Plug a monitor into the SVGA port on the back, and you can double your onscreen real estate (or mirror the display). The S-Video port lets you push video to a television monitor for presentations.

The PowerBook's display is a thing of beauty. It just blazes crisp, sharp letters and bright colors. The monitor's resolution can be lowered from its 1024 by 768 native resolution to 800 by 600 or even 640 by 480, and thanks to great antialiasing, it still looks great instead of getting all chunky. If you've ever seen other LCDs operating at a non-native resolution, you know how ugly they can get.

One of the big new features of the PowerBook G3 Series is its extended battery life, due in part to a more efficient architecture, and in part to new efficiencies in Mac OS 8.6. While we weren't able to play *Austin Powers* through twice on one battery, we did make it about halfway through the second showing—around three hours total—which is mighty impressive considering the optional \$300 DVD drive sucks up a *lot* of power. During more moderate use, we were

able to go hours longer on a single battery.

Despite a more power-efficient design, the new 'Book is no slouch in the performance department. Powered by a 400MHz G3 chip (with 1MB of backside cache), the newest 'Book was noticeably faster than previous models. Apple has also addressed the hot bottom problem with previous PowerBook G3 Series laptops. Although the bottom of our G3/400 warmed up, it never got uncomfortably hot, a welcome change from our G3/292. This may be due to a change in the case materials or the more efficient design and operating system. Either way, it's cool.

Taking a cue from the desktop Mac models, the PowerBook G3 has added USB ports in place of ADB and serial ports, something we old-time Mac folks are going to have to get used to, with the help of adapters and new peripherals. We had no difficulties using basic USB peripherals with our new 'Book. One other change is that there is now just one PC Card slot instead of two, as with previous PowerBooks. Since the new PowerBook G3 Series has both a modem and built-in Ethernet (and it ships with dual monitor support), the

single slot isn't a real handicap—no need for PC Card modems, Ethernet interfaces, or monitor cards.

Instead of including FireWire on the motherboard of the new 'Books, Apple chose to implement the standard SCSI port, a welcome I/O for those who have SCSI peripherals or who rely on the SCSI disk mode. Our PowerBook worked flawlessly in SCSI Disk Mode, even though the internal drive is IDE-based. Now *that's* spiffy engineering.

We wouldn't be good critics if we didn't talk about the PowerBook's problems. There are a few, but they're pretty minor. First, when closed, the keyboard rubs against the display, leaving faint marks. They aren't visible when the PowerBook is running, and they seem to wipe away with a clean lint-free cloth, so no real harm is done. For extra protection, just lay a piece of plastic between the monitor and the keyboard when closing. Second, the plastics housing the LCD seem a bit flimsy, as does the keyboard. When grabbing the display from behind (to adjust the viewing angle), the pressure on the back of the LCD shows up in the display as small ripples. The keyboard, on the other hand, is easy to get used to, and hasn't given us any problems, despite *lots* of typing.

Still, those are pretty darn minor flaws. The new PowerBook G3 Series is a joy to view, hold, and use, and it just keeps going and going and going on a single battery. (And, even though the weight has been reduced, you *could* pound a drum-beating stuffed pink bunny to death with it.) The DVD kit works well for both DVDs and standard CD-ROMs, and upgrading the RAM or the hard drive is a breeze with the pop-up keyboard. If you're looking for a high-end portable, this might be the time to buy. With dual-monitor support and a third-party FireWire card, the new PowerBook G3 Series could easily replace a desktop Mac.—David Reynolds

GOOD NEWS: High power, high style. DVD works great. Clean, easy-to-read display. Great dual monitor support, including S-Video. Still has SCSI. Light-up Apple on case. Lighter weight than predecessors. **BAD NEWS:** Monitor casing a bit thin. Keyboard presses against display when closed. No FireWire.

CELEBRITY 'BOOK DEATH MATCH

So, the new PowerBook is lighter, but is it *faster* as well? You bet. Here are the Norton Utilities System Information benchmarks to prove it.

PowerBook G3 Series 292

PowerBook G3 Series 400

Overall

728

917

CPU

815

1049

Disk

414

442

Video

548

691

FPU

684

939

The higher the number, the better the performance.

in review

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reviews

reviews

Flash 4

DESIGN & GRAPHICS

COMPANY: Macromedia

CONTACT: 800-457-1774 or 415-252-2000,

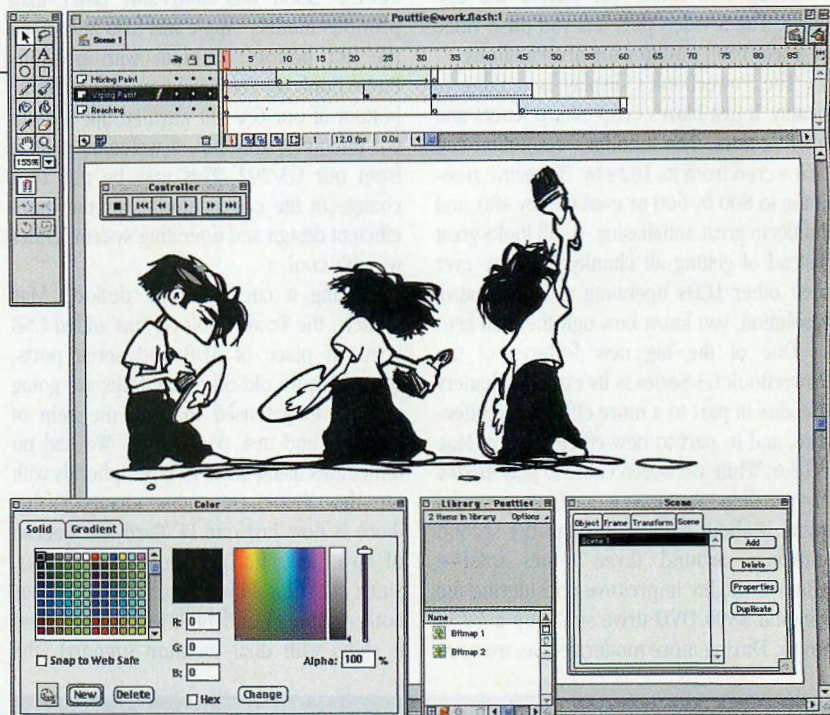
<http://www.macromedia.com>

PRICE: \$299 (SRP), \$129 upgrade from Flash 3; electronic distribution: \$269, \$99 upgrade

REQUIREMENTS: PowerPC, System 7.5 or later, 32MB of RAM, 20MB of free hard disk space, CD-ROM drive, color monitor capable of 800 by 600 screen resolution

Old-time Web geezers will remember Flash's Roots in FutureSplash, a relatively simple vector animation package wisely acquired by Macromedia back in 1996. The initial draw of vector graphics is their small file size and flexibility. Vector images are created by complex mathematical equations instead of the standard arrangement of colored pixels known as bitmap graphics. In addition, they can be scaled and reused at will with no effect on image quality or file size—just the ticket for Web animation and multimedia. The drawback, of course, is that Web browsers still can't render vectors without resorting to third-party plug-ins. Macromedia addresses this problem by bundling the Flash Player plug-in with both major commercial operating systems (Mac OS 8.5 and later, and Windows 95/98), America Online 4.0, and Netscape Navigator 4.5 and later. Flash also provides several other delivery options, incorporating Java, JavaScript, ActiveX controls, and if all else fails, good old bitmap graphics. And, of course, QuickTime.

Seasoned Flash users will feel right at home. They'll recognize and appreciate the



FLASH 4's NEW INTERFACE, including the tabbed Scene window and improved Symbol Library, make the authoring process dreamy.

enhanced interface; logical icons now represent frequently used Layer and Symbol attributes, including essential basics that were confusing in earlier versions, such as Scene and Symbol selectors that tell you exactly where you are and provide pull-down navigation to every Scene and Symbol in the joint. The enhanced Library speaks volumes: It now offers folders for organization and a sorely needed usage indicator to tell you which Symbols you're actually working with. Flash's generous support of contextual menus, F-keys, and other key commands covers most of the rest, sparing your mouse hand countless trips to the various menus and palettes.

The latest generation of DHTML authoring tools (namely Adobe GoLive and Macromedia's Dreamweaver)

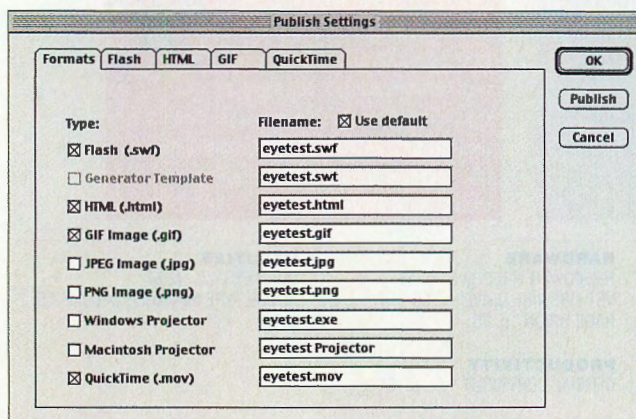
er) would fill the gap between high-tech eye candy and data-driven commercial applications, if it weren't for the pesky browser war. Flash 4 breaks serious ground with support for the full range of HTML form elements and text fields. Incorporating a keyword search engine, password protection, or any manner of data collection (such as e-commerce) is as simple as drawing the boxes and buttons and defining their variables in the respective Properties dialog boxes. This can be as complex as you want to make it, but anything beyond the basic "get" and "post" calls will require at least a basic understanding of IF-THEN-ELSE variable scripting.

True to its roots in interactive multimedia, Flash 4 also delivers some impressive gains in graphical interaction. You can assign Actions to Keyframes, Symbols, and individual Timelines (also known as Movie Clips), where they're activated by the user's mouse or keystrokes—or by other Actions or strings of Actions in the Flash movie. Again, the possibilities are vast, and more so if you know what you're doing.

This evolution of the previous Tell Target Action provides real object-oriented programming in a visual and graphic environment; the Expression Editor lets you

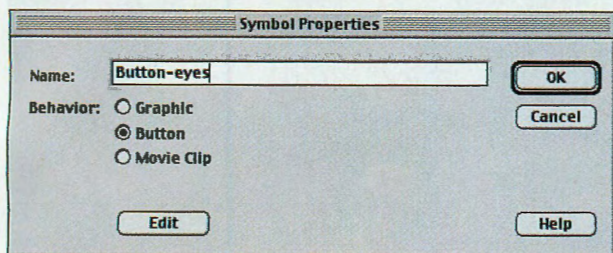


FIND A TRIAL of Flash 4 on The Disc.

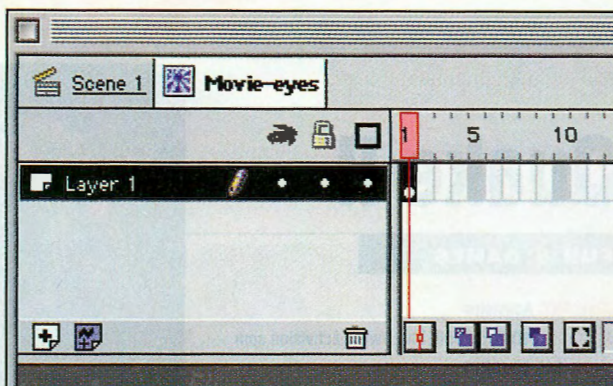


THE NEW ONBOARD PUBLISH SETTINGS CREATES a vast array of delivery options; the inspectors and library are greatly improved.

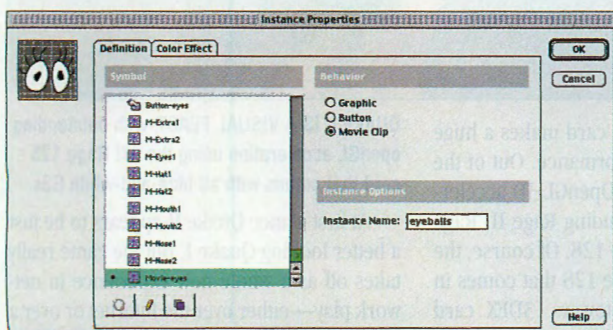
Adding Multiple Draggable Objects



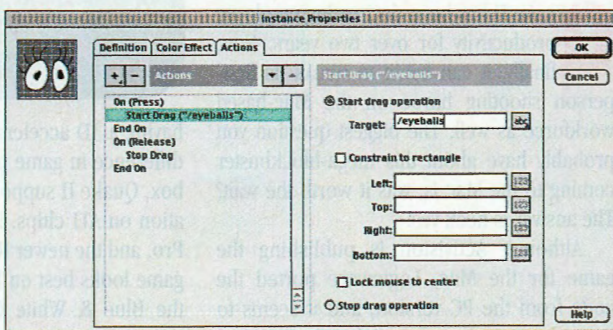
1 Create a button symbol to place in each draggable movie clip; if you cannibalize, give each instance a unique name.



2 Create the movie clip symbols; even if they're simple one-frame clips, they need movie clip properties (note the Movie Clip icon).



3 Drag movie clips from the Library to the Stage; define each with a unique instance name. Double-click a symbol's icon in the Library window to return to that symbol's editing stage.



4 From the movie clip symbol's stage, bring up the embedded button's Instance Properties and add the appropriate On MouseEvent and Drag Movie Clip Actions (Start on Press; Stop on Release). Name the target manually or by the Target Editor to match the target clip's Instance name.

NOTE: MOVIE CLIPS AND THEIR ACTIONS DON'T PLAY ON THE CONSTRUCTION STAGE; CHOOSE TEST SCENE FROM THE CONTROL MENU.

point-and-click your way through the basic Action operators, functions, and properties. Advanced users can enter expressions manually for more elaborate and customized Actions.

Flash 4's QuickTime integration goes both ways. You can incorporate QuickTime

Symbol Me This

As in prior versions, the key to Flash 4 development is in the Symbols. Create basic Graphic Symbols and cannibalize them into other Symbols, Buttons, and Movie Clips to save on download size. Duplicate Symbols (also known as Instances) provide you with identical objects that can be programmed individually for a consistent look and more complex animations and interactivity. For some Actions, such as the nifty Tell Target: Drag Movie Clip (See facing page), this is absolutely necessary; the Movie Clip's Timeline is the Target, but the Clip needs a Button onboard to recognize mouse interactions.

MOV files into a Flash movie, but you won't be modifying the actual MOV file. Instead, Flash references the MOV externally while you tweak and apply vector amenities that appear as tracks when you export the project. No video? No problem. You can export any Flash movie to a self-contained (flattened) QuickTime MOV file—smart move on Macromedia's part, given QuickTime's popularity and ubiquity. On the downside, however, most of Flash 4's new interactivity is lost in the translation.

When you're ready to wrap it up, you've got plenty of options for delivery. The simple Export SWF (or MOV, PICT sequence, animated GIF, and so on) is still available, or you can do it all at once with the new Publish options. If you were wondering whatever happened to AfterShock, the utility Macromedia used to provide for generating the HTML, Object and Embed tags, JavaScript, Java, and animated GIFs necessary for your preferred delivery scheme, look no further. Publish Settings (in the main menu under File) rolls it all into one

tabbed dialog box. It's all there—you just pick which types of media files, compression (MP3 anyone?), and presentation you want. Properly scripted, the code generated here can automatically provide each viewer with the best format for his or her browser's capability.

If pressed to find fault with Flash 4, we would find it, rather, with Macromedia for dangling such a juicy carrot in front of the throngs of amateur Web designers. Once they start experimenting with Flash's powerful Actions and Timelines, full geekdom can't be far behind. But Flash is definitely an awesome tool for masters as well.

—Niko Coucouvanis

GOOD NEWS: Simplified interface is more powerful. Library, Timeline, and Inspectors are all easier to access and understand. Advanced Action scripting creates more complex animations and interactivity. **BAD NEWS:** Flash Generator can't handle Flash 4 yet. More documentation would help beginners. It's still a plug-in.





Quake II

FUN & GAMES

COMPANY: Activision

CONTACT: 310-255-2000, <http://www.activision.com>

PRICE: \$49.95 (SRP)

REQUIREMENTS: PowerPC 603, 48MB RAM, 60MB of hard disk space, CD-ROM drive, System 7.5.3 or higher (OS 8.1 for network play)

Quake II has been decimating employee productivity for over two years. Now, finally, it can begin to wreak its first-person shooting havoc on the Mac-based workforce as well. The biggest question you probably have about this mega-blockbuster coming to the Mac is, was it worth the wait? The answer is heck yes!

Although Activision is publishing the game for the Mac, Logicware ported the code from the PC version, and it seems to have done an excellent job. The original developer of the Quake series, id Software (<http://www.idsoftware.com>), is renowned for writing games to take advantage of every ounce of speed that a computer can muster. Initially, we had some concern that this level of optimization would be difficult to replicate in a different computer with a different processor (despite the PowerPC's speed, it's still different). Our fears were unfounded as it turns out, and Quake II runs fantastically on just about any G3-based computer, including the original iMac. It even performs well on older PowerPC Macs that use 603- or 604-based processors. Of course,



having a 3D accelerator card makes a huge difference in game performance. Out of the box, Quake II supports OpenGL 3D acceleration on ATI chips, including Rage II, Rage Pro, and the newer Rage 128. Of course, the game looks best on Rage 128 that comes in the Blue & White G3 towers. 3DFX card owners can also take advantage of OpenGL acceleration on their machines with the help of the Q2MesaGL drivers and a new OpenGL library file available from the Logicware site (<http://www.logicware.com>).

Gameplay is just as we've all come to expect from id titles—fast, furious, and violent—earning every bit of the game's Mature ESRB rating. The single player game is level upon level of gothic corridors, grotesque villains, and powerful weaponry. Opponents die agonizing deaths and explode into chunky gore when you shoot them. Many of your favorite weapons from the first Quake, like the rocket launcher and the shotgun, have been upgraded for the new Q2 look. To keep things exciting, the game has introduced a number of new weapons, the most notable of which is the rail gun. This monster sends a bolt of energy at the speed of light—it's powerful enough to take down just about any player that isn't loaded up on armor and extra health. Quake I was often criticized because the single player levels were rather poorly designed. Quake II makes up for that deficiency. Every level is well thought out, with plenty of hidden booty like power ups and more powerful weapons to keep things interesting.

COMPUTER AI HAS been dramatically improved—opponents like this grunt are smart enough to hide behind corners before attacking.

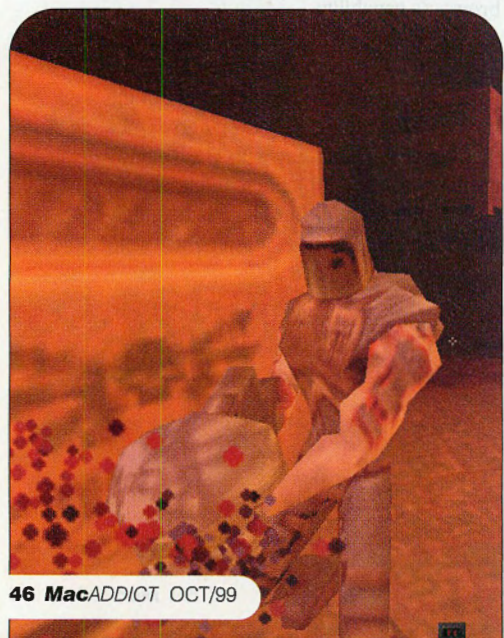
QUAKE II IS A VISUAL FEAST, with outstanding OpenGL acceleration using the ATI Rage 128 card that comes with all blue-and-white G3s.

At first glance Quake II appears to be just a better looking Quake I, but the game really takes off as a whole new experience in network play—either over the Internet or over a LAN. Quake always was a good multiplayer game, but with Quake II, the game introduces much faster network code and support for up to 64 players in a single game. All around the world servers are going 24 hours a day hosting Quake II death match games. Because Quake II for Mac is a direct port of the final code for Quake II on the PC, you're guaranteed compatibility and feature parity between the two platforms, so you never have to worry about being left behind by new patches to the PC version. Quake II death matching can take place on any of the single player maps included in the game and in the special death match levels designed exclusively for net play. While the single player levels are often entertaining, you'll find that the net play levels have been designed to truly exercise your death match skills in the most enjoyable way possible.

It's too bad it's taken so long for Quake II to make it to the Mac, but now that it finally has you can rejoice in playing one of the best multiplayer games ever created. With Quake III Arena just months away, you may think that Quake II is already a dated game, but keep in mind that there is no such thing as too much Quake. —Rick Sanchez

GOOD NEWS: Awesome net play. Good graphics. Runs on most PowerPC Macs.

BAD NEWS: Keyboard input lag. High RAM requirement.





Amorphium 1.0

DESIGN & GRAPHICS

COMPANY: Play

CONTACT: 916-851-0800, <http://www.amorphium.com>

PRICE: \$199 (SRP)

REQUIREMENTS: Power Mac, Mac OS 8.0 or later, 32MB of RAM, 800 by 600 display with thousands of colors, CD-ROM drive

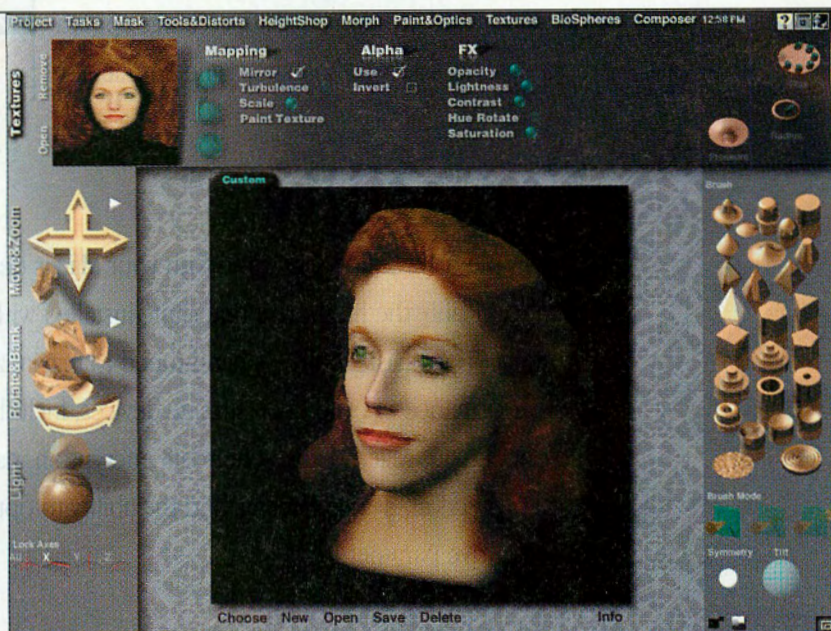
RECOMMENDED: G3, 64MB of RAM or more

Amorphium is a 3D graphics program that is basically the equivalent of using Sculptey on a Mac, except with more options, cooler colors, and less mess. It's a great idea—it makes 3D modeling as easy as creating things with your hands—but Play has made this innovative program a little too complex for 3D wannabes, and not quite versatile enough to attract wizardly types.

When you launch the program, you're presented with something that looks an awful lot like Bryce, Poser, or other MetaCreations programs, except that Amorphium abandons the Mac look and feel altogether, especially in its use of nonstandard (and sometimes hard-to-interpret) icons. Old Amigans will have no problem, though; there's even a Project menu (but no File or Edit menus) to make them feel at home, as well as a color palette straight out of the ancient DigiPaint graphics app.

Down the left side of the screen are tools that control lighting, camera, positioning, and size. On the right side is your Sculpting Brush selection. You can use these 3D brushes to quickly make cool details such as hair, but some of the brushes are rather hard to identify or distinguish from the next. There are many brush options, though. You can push the front, back, or both sides of a model; apply brushes symmetrically along various axes of rotation; and, like an air-brush, adjust the pressure intensity, radius, and rate of application.

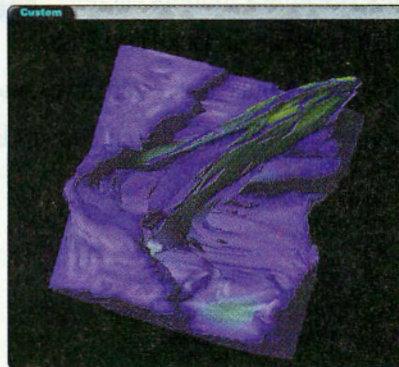
New projects start with a round blue ball which you can bend, twist, poke, and paint. Your tools are a collection of 3D brushes in different shapes and textures, which allow you to push the blue ball around like clay. No other 3D program works like this. It's easy to smooch something together: Within 10 seconds, we had mutated our ball so that it looked like one of those freaky asteroids from *Armageddon*, a shape that would be hard to make in other programs, but it takes lots of



THIS HEAD WAS SCULPTED from a single sphere in Amorphium, then the features and hair were painted in with the program's paint tools.

time and practice to get a recognizable image. Since making your own little person or animal is tough at first, we recommend working with some prefab shapes first. Amorphium's manual has several well-written tutorials to get you started.

You can paint with a variety of media on any surface of your model directly, making it easy to, say, put eyeliner on the girl warrior you've made. Amorphium smartly includes a mask feature with which you can mask off areas of the model so that they don't get painted. What you can't do, however, is output your object with its map and textures to any



YOUR FIRST EFFORT IN THE PROGRAM is more likely to look like this. Discipline is needed to model something that looks good.

other 3D program except Electric Image Animation System (Play's \$2,300 high-end 3D program) or VRML format, which many apps don't import.

Along the top of the screen are contextual palettes such as Paint and Optics, Distortions, Textures, Masks, Mapping, and Animation. This is where most of the complexity comes in. If you don't already know about mapping, specularity, morphing, and other 3D concepts, much less about Amorphium-specific ideas like the oblateness and energy level of a BioSphere, you're not going to get far beyond the Play-Doh stage. It's a lot harder than messing around with Kai's SuperGoo.

In fact, Play would've been better off leaving out many of the options and creating a less expensive program that's more appropriate for newbies, while putting the more advanced and complex options into a plug-in for Electric Image. Still, for animation-challenged people who want to have fun making cool-looking 3D things, Amorphium offers the easiest way to get started.—Miriam Anzovin

GOOD NEWS: Innovative 3D modeling tools. 3D painting directly on models.

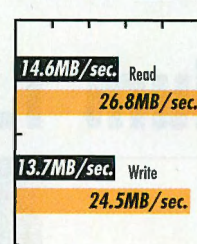
BAD NEWS: Complex interface crosses Bryce with DigiPaint for the Amiga circa 1987. It's hard to model precise objects.



Think Performance.

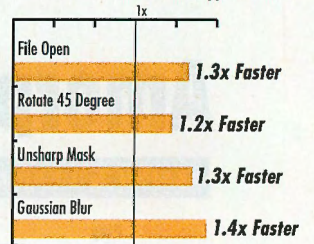
Improve the performance of even the fastest G3 with Hard Disk ToolKit 3.0. Turn multiple drives into blazing fast disk arrays with RAID support. Create scratch partitions that supercharge applications such as Adobe® Photoshop® and Premiere®.

Disk Array Performance†



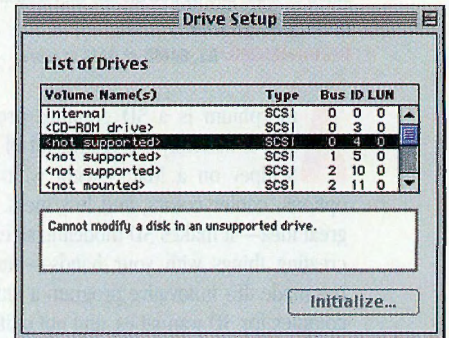
Photoshop Performance*

Times Faster Than Standard Apple Partition



Think Versatility.

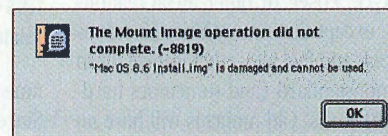
The simple drive utility that came with your Mac is designed to support only the hard drive that came installed with your Mac. Hard Disk ToolKit is hand-tuned to maximize the performance of over 1,000 storage devices, including the one in your Mac. We also offer data encryption, password protection, device cloning, and the ability to optimize specific drive parameters.



Apple Drive Setup

Think Reliability.

Using the Apple driver on third party drives may lead to data loss. Hard Disk ToolKit offers superior reliability. It even tests all your drives at start-up and warns you of imminent disk failure.



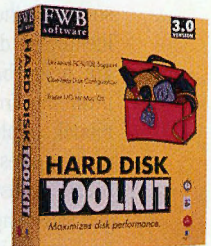
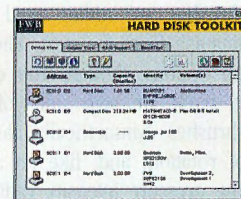
A problem you may experience when using the Apple driver on third-party drives.



Hard Disk ToolKit Diagnostics

Think FWB.

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MacZone
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www.maczone.com

Fry's
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MacConnection
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www.macconnection.com

Micro Center
800-743-7537
www.microcenter.com

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* Photoshop Test Parameters: 54 MB CMYK Photoshop File, Power Macintosh 300 MHz Blue and White G3, Mac OS 8.5.1, Apple 6 GB hard drive filled to 75% capacity, 64MB RAM, 32MB allocated to Photoshop 5.0.

† Disk Array Test Parameters: Power Macintosh 300 MHz Blue and White G3 with single SCSI drive vs. two-drive disk array. Benchmarked with MacBench® 5.0's Sequential Read/Write Disk Test of 1024K file size.

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Natural Scene Designer 2.0

DESIGN & GRAPHICS

COMPANY: Natural Graphics

CONTACT: 916-624-1436, <http://www.naturalgfx.com>

PRICE: \$89.95 (SRP)

REQUIREMENTS: PowerPC, System 7.0 or later, 16MB of RAM, CD-ROM drive

Graphic artists and animators looking for natural scenery can always rely on scanned images or CD-ROM archives, but not everyone is a good photographer, and stock footage goes only so far. What about the ability to create an instant landscape based on real locations or completely new, computer-generated worlds that can be “photographed” from any angle inside the computer? Natural Scene Designer 2.0 from Natural Graphics turns your Mac into a one-stop terrain shop.

Working with a DEM (Digital Elevation Map) file, Natural Scene Designer lets you position a virtual camera at any point, angle, or elevation, and generates scenery images with lifelike resolutions. Or you can work without a DEM file and let the software generate a new landscape to your specifications.



SMOOTH THE TERRAIN TOO MUCH, and you get a cartoonish look.

Once you're happy with the backdrop, trees, lakes, and clouds, you can even add custom 3D objects to the digital world.

Natural Scene Designer 2.0 can use stills, which are great, but the video capability is even better. Using a keyframe system, the camera can travel any user-defined path, taking shots at any angle, since the camera does not have to point in the direction of movement. Natural Scene Designer can automatically generate QuickTime files ranging from simple flybys to panoramic views in QTVR. In addition, Natural Scene Designer 2.0 can create various types of trees and instant forests based on a density scale. This is great because DEM files lack foliage data. Forests add rendering time but are well worth it. You can also add new lakes at the click of a button.

A word of warning, however: Natural Scene Designer 2.0 supports only United States Geological Survey DEM format files. Unfortunately, the term *DEM* is often used loosely, and there are many modified DEM formats that the software cannot read. It would have been handy if a few converters had been included to transfer DEMs from similar software packages.

Natural Scene Designer has a rich history going all the way back to Scenery Generator and Scenery Animator for the Amiga. While the algorithms and features have improved dramatically since those days, the interface has not. Some important touches, such as the ability to center a camera from a jaunty pitch and/or elevation, are missing, and users must either rely on an imprecise GUI gadget or a text interface to set the levels. You can rotate the camera with the mouse, but the tool is in a completely different window than the camera-positioning buttons.

REALISTIC TREES AND CLOUDS can be added to landscapes with ease.



ALL-TERRAIN CAMERA: Natural Scene Designer even goes to Mars.

Another rough spot concerns us: What's round, yellow, and an integral part of nature scenes? The sun, of course. With Natural Scene Designer's 3D object and lighting support, it's possible to create your very own sun in the sky. However, you're on your own to get it to look like something other than a yellow ball at 10,000 meters (the maximum height for any object in NSD). A built-in “sun” function that irons out these kinks would have certainly gone a long way toward creating more realistic scenery, and it's an unfortunate oversight. As it stands, the best bet for a good-looking sun is probably to export the finished image to a conventional paint program.

On a modest Power Mac, single landscapes generate fairly quickly. Trees and clouds demand the most resources, so pre-G3 users may want to think before creating long animations in the forest. Natural Scene Designer 2.0 lacks the polish more complete landscape generators offer, but at an entry-level price and with an included CD with sample DEMs and 3D objects, it can still create fantastic images.—*Jason Compton*

GOOD NEWS: Quick, gentle learning curve. Easy-to-use preview modes. Clouds and trees look great.

BAD NEWS: Interface needs some work. 3D-object support is an afterthought. Lacks needed support tools for access to more maps.



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reviews

reviews

QuickMail Pro 2.0

COMMUNICATION

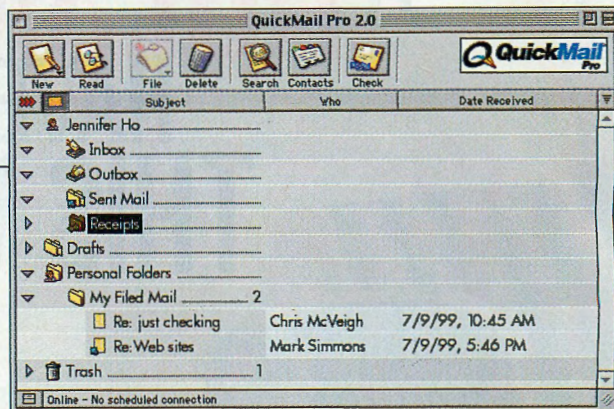
COMPANY: CE Software

CONTACT: 800-523-7638 or 515-221-1801, <http://www.cesoft.com>

PRICE: \$39.95 (SRP)

REQUIREMENTS: 68040 or faster, System 7.6.1 or later, 16MB of RAM, 10MB of free hard disk space, TCP/IP connection via Ethernet or dial-up PPP

RECOMMENDED: PowerPC, Mac OS 8.5.1 or later, 32MB of RAM



QUICKMAIL PRO'S MAIN WINDOW lets you know what's happening to your mailbox with a glance.

porno promo, tell QuickMail to detect any message with the word *porn* in the message text, and it will automatically move future sex spam to the Trash.

Another nice feature is the ability to access LDAP (Lightweight Directory Access Protocol) Internet directories such as Four11 and Bigfoot through Contacts. Just enter your criteria and press Find—there's no telling what you'll come across. It would be nice, however, to be able to search more than one directory server at a time. Also noteworthy is the well-integrated Address Book, which efficiently doubles as a contact manager.

What's the bad news? One surprising omission in QuickMail Pro 2.0 is the inability to work with IMAP servers. Most servers still use POP3, but there are some messaging systems that are accessible only through IMAP (for example, university and government mail servers). IMAP4's distinct advantage over POP3 is remote access through which you can read and manage mail on the server before deciding to download it or not.

Overall, QuickMail Pro 2.0 probably doesn't knock Eudora Pro 4.2.1 out of its pole position, nor does it blow away feature-rich Outlook Express. However, it's a robust client that breathes fresh air into the crop of tired old standbys. Furthermore, it eclipses shareware offerings, built-in browser email, and Web-based email. If you're an average user who doesn't need a zillion gizmos, then QuickMail Pro 2.0 is a good buy.

—Mark Shuchat-Marx

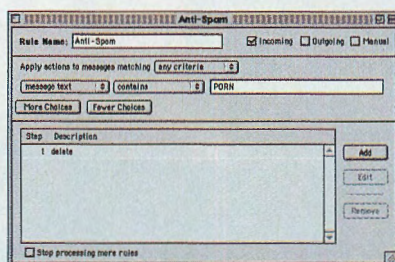
One thing that the Mac lacks is a truly outstanding email client, especially since Claris EMailer met an untimely demise. Both Eudora Pro 4.x and Microsoft's Outlook Express 4.x are very, very good, with Eudora coming close to greatness, but they're too bloated for average users. Enter CE Software's new QuickMail Pro 2.0, which aims to bridge the gap between underpowered and overpowered email programs for the Mac. How does it stack up in the field?

QuickMail Pro 2.0 sports a highly intuitive interface, with easy-to-understand toolbar buttons, icons, and menu items. Unlike some apps claiming to be intuitive, Quickmail won't have you running to the manual to find out what each item on the screen does. If you can't figure out what a button does by looking at it, roll the pointer over hot help and a description will appear. QuickMail Pro 2.0 takes the concept of attachments one step further with the ability to record and attach sound memos. If you have a microphone built into or attached to your Mac, just select Record Sound and talk into the mike.

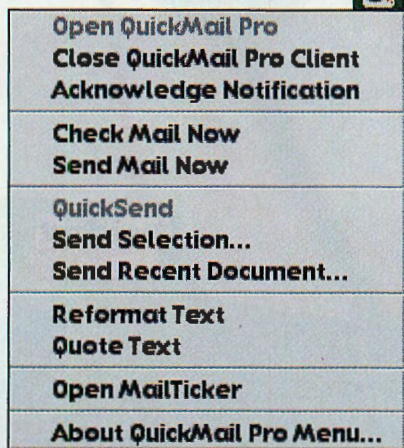


LONG-LOST COUSINS can be easily found through QuickMail Pro's interface with LDAP-format Internet directories like Bigfoot and Four11.

One of the best features in QuickMail Pro 2.0 is the MailManager, an easy-to-use filtering mechanism that looks for incoming email matching rule-based criteria, then does pretty much what you want with it. For example, you can use the MailManager to delete, print, forward, or reply to mail automatically. Out of the office for a week? Just set the options, type your autoreply, select Start Client MailManager from the Configure menu, and voilà. Should you get what looks like a genuine message but turns out to be a sleazy



SPAM, SPAM, SPAM.... Use QuickMail's MailManager to get rid of junk email before it ever gets a chance to pollute your In box.



BELLY UP TO THE BAR. The QuickMail icon in the menu bar provides easy access to all of the program's features.

GOOD NEWS: Very intuitive. A snap to use. Excellent filtering mechanism. Interfaces with Internet directories via LDAP. Great interface. **BAD NEWS:** Doesn't work with IMAP servers yet. The free Outlook Express duplicates most features.



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ScanMaker 4

FEATURES

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reviews

Commotion 2.1

DESIGN & GRAPHICS

COMPANY: Puffin Designs

CONTACT: 415-331-4560,

<http://www.puffindesigns.com>

PRICE: \$2,495 (SRP)

REQUIREMENTS: PowerPC, Mac OS 8.0 or later,
16MB of application RAM

RECOMMENDED: G3, 64MB of application RAM or
better, high-end 2D acceleration hardware

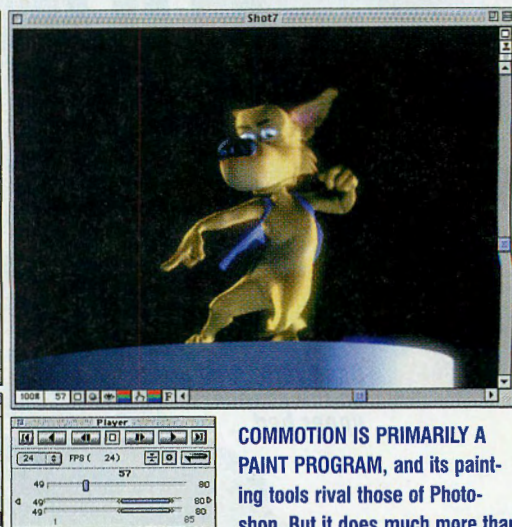
Puffin Design's Commotion has been the most important effects creation tool on the Mac since it was introduced into the market in 1997. Written by ILM (Industrial Light & Magic) visual effects wizard Scott Squires, one of the supervisors of the new *Star Wars* film, the program has become so popular among effects artists and animators that studios buy Macs just so they can use it. To get an idea of Commotion's importance, consider that practically all 1,900-plus shots in *Star Wars: Episode I—The Phantom Menace* were touched up or altered in Commotion, and that Commotion was one of only four animation programs that were mentioned in the film's credits.

Commotion has been described as Photoshop for motion graphics, and that's about right. As a painting program, it rivals Photoshop. Features like the Super Clone tool, which can clone from any frame of any movie so that you can see the clone source superimposed over the current clip, and roto-splines, which are animated paths that

can be stroked and filled just like Photoshop paths and used to generate an alpha channel, make Commotion the perfect choice for retouching or painting out unwanted objects from shots, creating 2D animation, or roto-scoping the edges of a figure to isolate it from its background.

Since we reviewed version 1.0, Puffin Designs has added new tools similar to those in Adobe After Effects, the leading desktop composition app. Now you don't have to take footage generated or altered in Commotion into After Effects to be composited; you can finish many shots right in Commotion, and some of the tools, such as its excellent Motion Tracker, are actually superior to their After Effects equivalents.

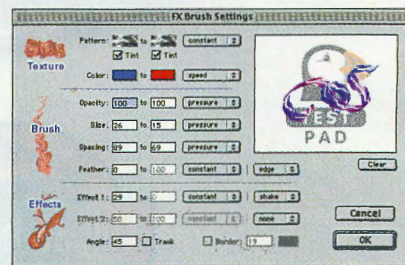
The most important new feature introduced with version 2.0 is the timeline. Unlike After Effects, Commotion isn't a procedural animation program—that is, it actually changes the pixels and alters the movie as each paint stroke or effect is



COMMOTION IS PRIMARILY A PAINT PROGRAM, and its painting tools rival those of Photoshop. But it does much more than

just paint: It's one of the most important effects creation packages on the Mac.

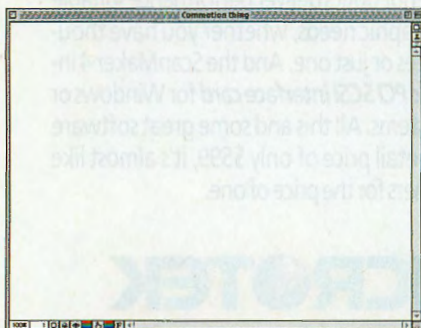
applied, rather than keeping all its data in a changeable form until the final render. Therefore, it doesn't make sense to keep a timeline open all the time, as After Effects does. Instead, Commotion pops up a timeline whenever you use a filter. You can vary effects parameters over time from within this timeline, and animate the movie, after



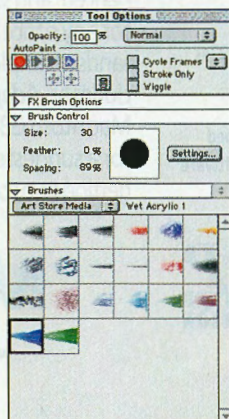
COMMOTION'S FX BRUSH SETTINGS allow extremely fine control of the way a brush acts and appears.

Autopaint

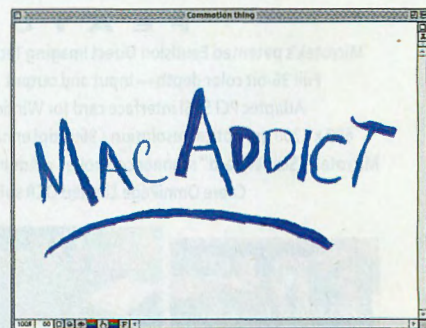
Commotion's Autopaint feature has a lot of different possible uses, but one of the more obvious examples is a simple write-on effect. Here are five steps you can use to easily create a write-on.



1 Create a new document. Make it 640 by 480 pixels and 60 frames long.



2 Click the record button on the Autopaint floater.



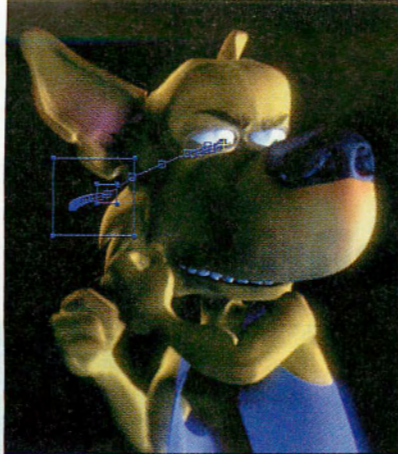
3 Use the mouse or a graphics tablet to paint a word. In this case, we've used one of the acrylic FX brushes.

which your changes are rendered out. There's not as much control as in After Effects, but Commotion's timeline is adequate for many projects.

Another important addition is the Autopaint feature. Autopaint records brush strokes and plays them back, either on every frame of the clip or stretched out over a number of frames. For example, you can create a simple write-on effect by recording the brush painting a word and replaying the strokes over the length of the movie. Autopaint can automate the removal of objects using the Clone or Superclone tools, or create unique effects used in conjunction with the Motion Tracker.

Commotion's motion tracking is generally acknowledged to be the best available anywhere on the Mac. Any unique position in the frame of a movie can be automatically tracked with a crosshair, generating a path that you can use in many different ways. The Commotion Tracker has high accuracy and can use multiple paths to derive rotation and scale data (After Effects can derive only rotation data). You can also average multiple tracking paths and alter the whole path at once.

Where the Commotion Tracker really shines is in the number of things you can do with the data. You can attach a roto spline shape to a tracker, making it very easy to roto objects that move around but don't change shape much. You can attach Autopaint brush strokes to objects, or use tracking data with the Superclone tool to paint out moving objects. You can apply tracking data to any of the channels available in an effects timeline, such as position or rotation. Commotion 2.1 exports tracking data directly to After Effects via the clipboard, or saves it in a number of popular formats, including After Effects, Avid Media Composer, and Effetto Pronto.



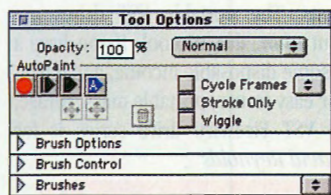
COMMOTION'S MOTION TRACKER IS FAST and easy to use. Here, the Tracker has been used to trace the path of Dennis's eye.

Our favorite new Commotion tool, however, is the FX brush. It's basically a souped-up paintbrush that allows you to control colors and textures by a separate image and by a number of values related to the movement of the mouse or stylus. That may not sound like much, but the FX brush is amazingly versatile. The default brushes supplied by Puffin Designs (you can also make your own) include everything from brushes that mimic acrylic paints and fountain pens (à la MetaCreations's Painter) to brushes that paint licorice sticks, chains, and piano keys. Particularly useful is the ability to base any parameter on the speed and direction of the mouse, or the pressure and tilt of a stylus.

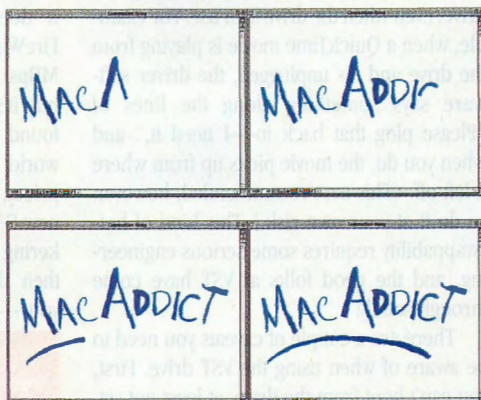
With this new release, Commotion 2.1 has evolved from a valuable cleanup tool to an all-purpose motion-graphics powerhouse. Any new painting programs that start out after it are going to have a long run to catch up. —Raf Anzovin

GOOD NEWS: Top effects creation tool on the Mac. Uses all After Effects filters. New timeline, motion tracking, autopaint, FX brushes.

BAD NEWS: None.



4 Click the record button again to stop recording, and erase the word you have just written with the eraser tool.



5 Click the autopaint button and watch the word write itself onto the screen frame by frame.

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HARDWARE

COMPANY: Mactell

CONTACT: 888-622-8355, <http://www.mactell.com>

PRICE: \$549 (SRP)

REQUIREMENTS: G3 Mac with FireWire port

SPECIFICATIONS: External 14.4GB hard drive (other sizes also available), 7,200 RPM



Photographs by Aaron Lauer

If you develop software, make multimedia projects, or want a place to store 20 of your favorite games so that they'll load at the drop of a hat, you've no doubt caught yourself worrying about overcrowding your blue-and-white G3's hard drive. Sure, you can add an SCSI card and attach an external drive, but FireWire hard drives promise huge capacities *and* blazing speed. Do they really deliver?

Mactell's FireDrives belong to the first batch of FireWire drives ever to appear. After testing one with our G3, we had no complaints about its capacity—a cool

14.4GB of space in the unit we received. We also loved its hot-pluggability, simple setup and ease of use, as well as its support for isochronous data, which is necessary for streaming multimedia. Plus, the FireDrive matches the G3's colors, and its girth screams business. Did we mention the 14.4GB of storage?

On the negative side, the drive speeds that we saw through sequential data writes and reads didn't live up to FireWire's 50 MBps. Therefore, our final buying advice is, if you'd rather go the native route and buy a drive you can plug in right away, instead of installing

MACTELL DISHES UP a whopping 14.4GB of FirePower.

larger, faster internal drives, then the FirePower FireDrive is a convenient solution. If you're a speed freak, then you should spend your money on a SCSI or UltraATA device.—Jennifer Ho

GOOD NEWS: Easy to set up, easy to use. Huge capacity. Comes in blue and white to match the G3. No termination needed. Hot-pluggable.

BAD NEWS: Drive performance falls way short of FireWire's vaunted 50 MBps.



VST FireWire drives

HARDWARE

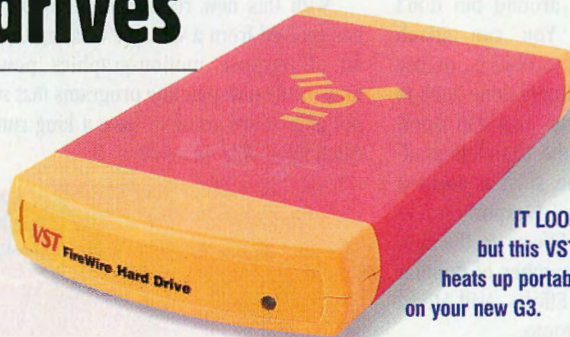
COMPANY: VST Technologies

CONTACT: 978-263-9700, <http://www.vsttech.com>

PRICE: \$799 (SRP)

REQUIREMENTS: G3 Mac with FireWire port

SPECIFICATIONS: External 14GB hard drive (other sizes also available), 4,200 RPM



IT LOOKS LIKE A HOTPLATE, but this VST FireWire drive only heats up portable mass storage options on your new G3.

It's difficult to get excited about a hard drive, but now you have something worth getting thrilled about. VST is the first to bring FireWire to a hard drive, packaged in a cool red-and-orange case small enough to fit in a shirt pocket (albeit producing a conspicuous bulge).

Two things make this drive truly great. First, the integrated FireWire interface provides power (chaining two or more drives requires an additional power supply, available for \$21.95), making the drive insanely easy to connect. You just plug the drive into the FireWire port, and it powers up and appears on the desktop, provided that the FireWire drivers are installed. To shut it down, just drag the drive icon to the trash and unplug the drive. Second, the drivers are robust enough

to handle plugging in and unplugging the drive, even when the drive is in use. For example, when a QuickTime movie is playing from the drive and it's unplugged, the driver software says something along the lines of "Please plug that back in—I need it," and when you do, the movie picks up from where it left off. (This isn't recommended, however, so do it at your own risk.) This kind of hot-swappability requires some serious engineering, and the good folks at VST have come through solidly.

There are a couple of caveats you need to be aware of when using the VST drive. First, you can't boot from the drive, at least not yet. Rumor has it that future versions of the FireWire driver may make this possible. Second, while the data transfer rate tops out

at a respectable (and theoretical) 5.5 MBps, it doesn't come close to saturating the FireWire pipeline, which can handle up to 50 MBps. It's slower than UltraSCSI (go figure), but it's speedier than the standard SCSI-2 found on older Macs—at least in our real-world tests. The portable VST drives are pricey, but *man*, they're cool. If you have a new G3, some disposable income, and a hankering for easy-to-use, portable mass storage, then the VST FireWire drive series is for you.—David Reynolds

GOOD NEWS: Easy to use as a floppy. Effortless setup. Robust operation. Extremely portable. Cool case. Great features and high capacity.

BAD NEWS: Not yet bootable. Pricey.





QuicKeys 4.0

UTILITY

COMPANY: CE Software

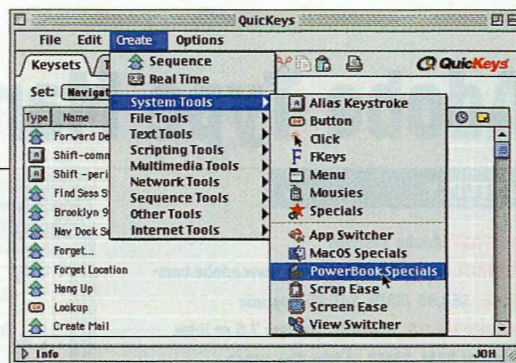
CONTACT: 800-523-7638 or 515-221-1801, <http://www.cesoft.com>

PRICE: \$99.95 (SRP), \$35.95 upgrade from 3.5

REQUIREMENTS: PowerPC, Mac OS 8.0 or later, 16MB of RAM (32MB recommended), 8MB of free hard disk space, CD-ROM drive

THE QUICKEYS

EDITOR is still confusing, but this version smooths out some rough edges.



QuicKeys, the granddaddy of macro utilities, is as powerful and useful as ever, enabling you to automate every Mac task from Internet access to addressing envelopes. But with version 4, the utility gains full Mac OS 8.6 compatibility, a minor interface makeover, nicely implemented toolbars, and a slew of really useful pre-made shortcuts.

The compatibility and interface improvements are the real draw for longtime users. The redesigned Editor dialog box is (finally) nonmodal and easier to navigate. Serious scripters can write QuicKeys scripts in the

AppleScript editor, although the utility still lacks variables. But creating shortcuts has always required digging through a morass of dedicated dialog boxes, and the morass just got a little deeper with the addition of 10 new plug-ins (CE has retired the confusing term "extensions").

The long list of prefab shortcuts will draw newcomers—these actually turn QuicKeys into a sort of all-purpose utility. A press of a command key or a click on a toolbar can reformat text, access a "password vault," run your CD player, or perform a slew of other handy tasks. Creating short-

cuts is now much simpler, too, thanks to the new Setup Assistant. And let's hear a cheer for QuicKeys's excellent *paper*—not online—manual.

Current QuicKeys owners will upgrade for the sake of compatibility, but everyone will appreciate how useful QuicKeys is right out of the box.—*Joseph O. Holmes*

GOOD NEWS: Compatible with 8.6. Oodles of pre-made shortcuts. Improved interface. Setup Assistant for beginners. **BAD NEWS:** No variables. Even more dedicated dialog box and menu doodads.



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www.krilo.com



Adobe Type Manager Deluxe 4.5

UTILITY

COMPANY: Adobe Systems

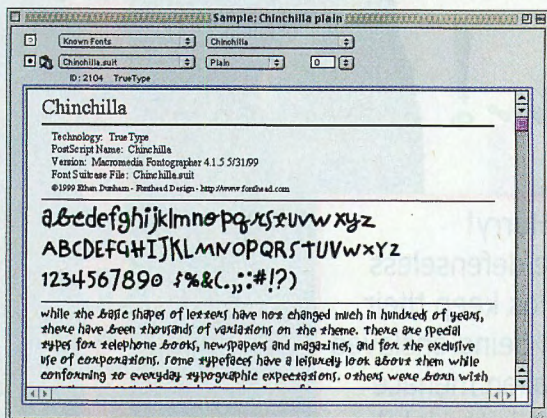
CONTACT: 408-536-6000, <http://www.adobe.com>

PRICE: \$69.95 (SRP), \$49.95 upgrade

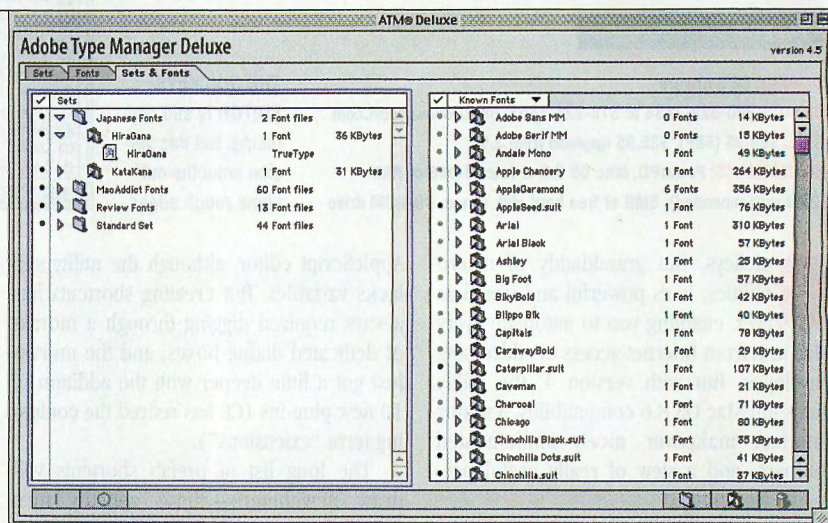
REQUIREMENTS: PowerPC, System 7.5 or later,
16MB of RAM, 10MB of free disk space,
CD-ROM drive

Just as pack rats love to acquire countless and often useless items they'll hold onto forever, Mac users have a knack for acquiring fonts and sets of fonts—lots of them. We doubt you'll find less than 30 fonts on anyone's Mac. The problem? Each font uses RAM and slows down applications. Moreover, the majority of fonts are rarely used. Enter Adobe's new version of Type Manager, known as ATM. ATM Deluxe 4.5 consists of a control panel and an application to manage your fonts. Creating font sets is as easy as clicking a button and dragging fonts to the resulting folder in ATM's Set & Fonts view.

Adding fonts to ATM 4.5 is easy. Just leave the standard fonts (Monaco, Times, Chicago, and so forth) in your System Folder's Fonts folder, and move your extra fonts to another folder on the same drive. Drag your folder with the extra fonts to ATM's window, then use ATM's Verify and Report features to weed out and replace any damaged, conflicting, or duplicate fonts. Finally, create as many sets as you like that contain whichever fonts you like.



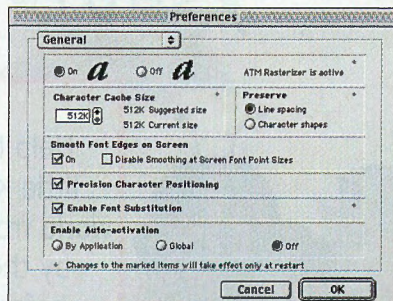
PRINT OUT EXPANDED SAMPLE SHEETS for each font, or generate an index of all your fonts. If you've got PDF Printer from Acrobat 4.0, just print to a PDF file.



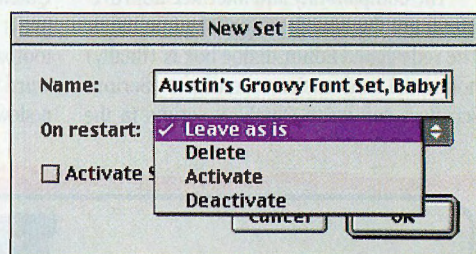
MANAGE YOUR FONTS EASILY from within this double-paneled view. To add fonts to sets, just drag and drop them.

Power users will find ATM's Verify and Report features quite useful. Users can also print font samples, or indexes, which greatly aid in seeing how fonts will look on paper. Also, pros will find ATM's font activation, either globally or by application, a quick and easy way to use the fonts they want in the applications they choose. Font smoothing and control over multiple master font instances are also available.

Extras included with ATM Deluxe 4.5 include 15 Adobe fonts, Adobe's PostScript Printer Driver, and Type Reunion Deluxe 2.5. We hesitate to recommend installing Type Reunion Deluxe, however, after reading numerous online reports of incompatibilities with other applications.



ATM GIVES YOU CONTROL over a lot of its operations, but perhaps the most useful is the Auto-activation feature.



TO CREATE A NEW FONT SET, you just click a button, name the set, and choose a few options.

Also on the negative side, ATM 4.5 suffers from a few annoying interface quirks. For example, pressing Page Down in the Fonts window with no fonts selected takes users to the end of the font list, not one screen down. Second, to manually activate or deactivate fonts you have to use a pair of On and Off buttons, instead of a more intuitive check box system as in Extensis's Suitcase 8. Finally, the Preferences appear in the File menu, not the Edit menu where they belong. Gee, is ATM 4.5 a Windows product, too?

If you're an inveterate Adobe fan, then ATM Deluxe 4.5 is a solid font management product, but we can't recommend it over Extensis's recently released Suitcase 8 (*Reviews*, Sept/99, p68).

—Erik J. Barzeski

GOOD NEWS: Speeds general application usage. Identifies problems with fonts. Intuitive font management. **BAD NEWS:** Odd interface. Control panel sucks up 2MB of RAM.



reviews



reviews

Bugdom

FUN & GAMES

COMPANY: Pangea Software

CONTACT: 512-367-8116, <http://www.pangeasoft.net>

PRICE: \$37.95 (SRP)

REQUIREMENTS: G3, Mac OS 8.0 or later, 32MB of RAM, ATI Rage II, 2MB of VRAM

RECOMMENDED: 64MB of RAM or more, ATI Rage Pro or Rage 128, 4MB of VRAM or more, RAVE driver for non-ATI graphics accelerators



DON'T BUG OUT because you're the bug with the most as you run, roll, swim, and fly to save all the LadyBugs in the Bugdom.

Bugdom is a rockin' and rollin' insect fest. The story is rather simple: You're pill bug Rollie McFly, fighting the evil ants which have taken over Bugdom and imprisoned the LadyBugs.

Gameplay in Bugdom isn't anything to write home about. The third-person perspective made popular by Tomb Raider is a bit of a pain, especially with its swaying, imprecise camera. Zooming out helps a bit, but be prepared to get blinded by plants and flowers (keep clear of the brush). Furthermore, the game's levels employ the run-fight-and-find-the-key scenario, which can become repetitive.

Nevertheless, Bugdom is an awesome arcade game. The characters are funny, adorable, and highly imaginative. The game design is well balanced: Rollie and his insect enemies don't suffer from mismatched strengths and weaknesses. Add to this colorful scenery, visual effects, 3D objects, and catchy background tunes. The game gets high marks for its particle system, which allows water splashes and light trails,



realistic camera effects (like lens flares), smoke and fog, and dynamic shadows that give its objects weight.

Bugdom is a clean and darn fun arcade game with lots of cool critters and a worthy cause—LadyBug freedom. Plus, it's safe for all ages.—Jennifer Ho

GOOD NEWS: Cool visual effects such as particle water, lens flares, and shadows. Fun music. Cuteness galore. Bowling-alley knock-'em-down roll mode. **BAD NEWS:** Sticky camera. Levels lack complexity. No roly-poly death matches.



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Rage Orion

HARDWARE

COMPANY: ATI Technologies

CONTACT: 905-882-2600, <http://www.atitech.com>

PRICE: \$199 (SRP), \$30 mail-in rebate with trade-up program

REQUIREMENTS: PCI-based Power Mac, one available PCI slot

SPECIFICATIONS: Rage 128, 16MB of video memory, RAVE and OpenGL compliant



Photograph by Aaron Lauer

THE RAGE ORION HUNTS DOWN AND TAMES 32-bit color games while slaying a polygon or two along the way.

We've waited nearly six months for the PCI version of the Rage 128, while adopters of blue-and-whites have enjoyed their built-in Rage 128 since January. It was a tough wait, especially as next-generation graphics accelerators like the TNT2 were appearing left and right in PCs. The wait's over, and the Rage Orion is one of the few good things keeping the Mac alive in today's high-res, 32-bit color, OpenGL gaming. And

its support for legacy APIs like QuickDraw 3D and RAVE is unmatched.

The Rage Orion specifically targets gamers through its retail packaging and inclusion of game demos. The video card can, of course, serve as a graphics-specific accelerator for 2D and 3D apps such as Photoshop, QuarkXpress, and LightWave, but creative types might want to hold out for the 32MB-endowed Nexus 128.

In our series of tests, we pitted the Rage Orion against the reigning 3D gaming champion: Voodoo2 Game Wizard. Check out the benchmarks in "Unreal 3D Kung Fu Fighting." The winner at the lowest resolution, 640 by 480, was the Game Wizard, but at 800 by 600, the Rage Orion kicked out polygons 10 frames per second faster *and* went unchallenged at 1028 by 768. (Voodoo2 is not capable of 1028 by 768 except in SLI mode.)

The Rage Orion's other big advantage is its ability to render in 32-bit color games natively written in 32-bit color such as Quake III Arena. The entire family of Voodoo chip sets (Voodoo Graphics, Voodoo2, Voodoo Banshee, and Voodoo3) can run 16-bit color only in 3D mode and dithers anything higher to 16-bit output, so the Rage Orion

should win the allegiance of hard-core gamers and color purists. Another pinch for the Game Wizard is its lack of OpenGL support, which means no Quake III Test. The only workaround is to use MesaGL, a freely distributed OpenGL-like wrapper for Glide, Voodoo's native API. Thus, the Rage Orion offers the easiest and most compatible configuration out of the box and into your Mac.

Rage Orion's main disadvantage is that it can't run Glide versions of games. To some, RAVE means lower quality visuals, particularly in texture mapping on objects. However, only the hard-core gamer would notice. Furthermore, some RAVE versions like Myth II have displayed anomalies in 16-bit color 3D. Overall, the Rage Orion's image quality is excellent, particularly in true color.

Two camps of gamers exist: The first consists of loyalists to 3Dfx and Glide. The second is made up of believers in Apple standards such as the legacy RAVE and QuickDraw 3D, and the newly adopted OpenGL. If you have to play games in Glide (3Dfx), then seek out a Voodoo2 or Voodoo3 card. But if you're a fan of RAVE, OpenGL, and 32-bit color gaming, then the Rage Orion is the card for you. We highly recommend it. —Jennifer Ho

Unreal 3D Kung Fu Fighting

The higher the frame rate, the better the performance.

Resolution	Game Wizard 12MB (Glide)	Rage Orion 16MB (RAVE)
640 X 480	39.97	38.63
800 X 600	22.12	24.43
1028 X 768	hardware can't do	24.43

Test machine: Power Mac G3/400, 96MB of RAM, virtual memory off, Mac OS 8.5.1, Unreal 1.02b4 (223), all high-quality settings on, XLR8Yourmac Unreal FPS Toolkit, 16MB Voodoo Banshee MP 850, and 12MB Voodoo2 Game Wizard.

Smoother Than Lard



Pixel City

This wall is full of nasty blocky pixels, but...



RAGE Accelerated

...3D hardware acceleration antialiases them, giving a more realistic appearance.

GOOD NEWS: Best graphics accelerator on the Mac for OpenGL, RAVE, and QuickDraw 3D apps and games. Runs 32-bit color 3D and does single-pass multitexturing without breaking a sweat. Package includes a full game and two demos. Superb documentation. Legacy RAVE and QuickDraw 3D support. Ultrahigh resolutions.

BAD NEWS: 16-bit color in games is 1 bit off. It should've come out six months sooner.



Official Copyright

PRODUCTIVITY

COMPANY: Official Software

CONTACT: 617-266-5445, <http://www.officialsoftware.com>

PRICE: \$74.95 (SRP)

REQUIREMENTS: 68040 or faster, System 7.0.1 or later, 9MB of free RAM, 16MB of free hard disk space, high-resolution ink jet or laser printer (300 dpi or better), CD-ROM drive

Official Copyright is designed to help you register your work with the U.S. Copyright Office. Unfortunately, it's one bad application: It took us hours to get forms to print properly, it crashes often, and all of the information it provides is already available at the U.S. Government's Copyright Office Web site (<http://www.lcweb.loc.gov/copyright>).

Because we don't have much space here, we'll keep a long story short: This application wreaked havoc on our Mac before we even had a chance to test it thoroughly. Tech support was responsive and eventually helpful, but only to a point.

The program provides information about copyright law through a HyperCard-like interface. It enables you to fill out seven long forms and three short forms in a simple, step-by-step process. Other more esoteric forms are provided as blank PDF files. When you're done providing all of the information, you can print the complete, filled-out form, but only in high-quality mode. Our attempts to print in draft mode resulted in several program crashes.

Official Copyright is not a user-friendly program. We've installed and used hundreds of Mac apps, and this was the toughest to get working. If you fill out a lot of copyright forms and have been waiting for a program to automate the process, wait longer.—*Jeff Merron*

Spaces

Space 1
Space 2
Space 3
Space 4
Space 5
Space 6
Space 7
Space 8
Space 9
Space 10
Space 11

I'm finished

PULL-DOWN MENUS LIKE THIS ONE provide a poor navigation option. In this case, there are 11 spaces on the form, but you'll have to guess which information goes where before selecting your menu choice.

OFFICIAL COPYRIGHT enables you to fill out registration forms in a simple, step-by-step process.

GOOD NEWS: Cooperative tech support—you'll probably need it.
BAD NEWS: Frequent crashes. May cause conflicts with other applications.



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Caesar III

FUN & GAMES

COMPANY: Sierra Studios

CONTACT: 800-757-7707, <http://www.caesar3.com>

PRICE: \$49.95 (\$SRP)

REQUIREMENTS: PowerPC, 100MHz or faster, Mac OS 7.6.1 or later, 32MB of RAM, 4X CD-ROM, monitor capable of thousands of colors, 150MB of free hard disk space



FIND A
DEMO of
Caesar III
on The Disc.

Veni, vidi, vici. While the legions were certainly impressive, the endurance of the Roman Empire was due to stone more than steel, through the skill of its engineers and the sweat of its plebs. The latest in a flurry of quality strategy games ported to the Mac, Caesar III emphasizes governing over combat, not unlike Settlers from a few years ago. Luckily for us, this Roman city-building sim is much more engaging and balanced.

Near the turn of the first millennium, the Roman Empire is expanding rapidly and needs qualified governors to oversee the safety and prosperity of cities on the border of civilization. As in most sim titles, you build your aspiring metropolis from the ground up and quickly turn Caesar's initial donation into a



steady annual income. Establishing steady trade with manufacturing from raw materials is easy, but disasters such as fire, blight, and riots, brought on by human negligence or the wrath of one of the five jealous gods, stalk your citizens.

The future of the city lies in building well-thought-out zones for industry and housing. In a unique twist, Caesar III determines each building's effectiveness by the paths employees take through the streets, instead of using radii of effect. This means that the effect of a service is distributed realistically along the length of a block. For example, actors will entertain people in the streets on their way to the theater. The downside to this design is that precious civil servants may get lost in a maze of streets. The streets are generally too jammed for you to pick out individual walking patterns, though an adequate array of map overlays help distinguish trouble spots in the distribution of services.

Unlike previous games in the series, all the action takes place on the city map, combat and trade included. Having military maneuvers take place on the municipal scale certainly motivates you to build solid walls and towers to keep the Gauls off the Senate steps. The range of control over units is limited to formation and movement commands, which keeps it simple but ensures that combat is only a minor point of interest in the game.

AS EACH LEVEL PROGRESSES you must hand-groom neighborhoods to prosperity.

HOLD BACK THE GAULISH HORDES with well-prepared defenses. Arrayed armies can be effectively protected with ballistae bristling atop your walls.

Caesar III's graphics and audio go a long way toward enhancing the game without being spectacular. The game gives the appearance of a bustling city by using 2D animated sprites for nearly all the buildings and inhabitants. Higher resolutions are supported up to 1024 by 768, making the graphics extra crisp. We wished, however, for a more significant zoom function so we could use the overlays on a citywide level, especially on the later, larger maps.

The campaign is built on a series of city-building missions. You can vary goals and use artificial terrain and resource constraints to smoothly increase difficulty and add a variety of challenges to your growing cities. Additionally, each of the 11 levels on the way to becoming emperor presents you with a choice of two maps, one relatively peaceful, the other more dangerous. You can choose to emphasize pure economics or a more substantial military, then later go back to alternate missions for added gameplay.

Caesar III incorporates enough historical flavor and combat to distinguish it from other sim games. It's another solid offering from Sierra that offers both appealing simplicity and addictively refreshing gameplay for a wise audience.—*Samuel Parker*

GOOD NEWS: Addictive gameplay.

Packed with detail. Marshalling Roman legions kicks butt.

BAD NEWS: Limited combat options.

Citizen pathfinding hard to predict.



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reviews

Age of Empires

FUN & GAMES

COMPANY: MacSoft

CONTACT: 612-249-7600, <http://www.wizworks.com/macsoft>

PRICE: \$49.95 (SRP)

REQUIREMENTS: PowerPC, 32MB of RAM, System 7.6 or later, 350MB of hard disk space, CD-ROM drive



REAL-TIME STRATEGY MEETS empire building as you battle to take over a primitive world.

Age of Empires was a highly anticipated game for the Mac because when it was released for the PC, it was widely viewed as a milestone in real-time strategy. Age of Empires is a unique hybrid of empire-building strategy games like Civilization II and real-time action strategy games like WarCraft, and it delivers a unique gaming experience.

On the surface, Age of Empires delivers the empire-building goods, encouraging you to advance your civilization from the Stone Age through to the Iron Age. However, this is about the only likeness to Civ II-style empire-building in the game. Unlike Civilization, in which your empire advances thanks to research and improvements, in Age of Empires your nation advances because you hoard resources and pay your way into first the Tool Age, then the Bronze Age, and finally the Iron Age. The result is that the notion of empire building is mainly a formality. With each advancement you can obtain improved buildings, naval ships, and units, but that doesn't necessarily change your strategy.

Strategy is, in fact, reduced to naval supremacy. Whichever player gets the most powerful navy first will generally win the game. Naval units are able to bombard build-



YOU'LL START OFF IN THE STONE AGE, gathering berries, antelope meat, and wood to evolve to the Tool Age.

ings and land units and have a tremendously unfair advantage. Poor unit AI also has a big impact on Age of Empires's playability. Computer-controlled units are smart, very smart—even SkyNet and Terminator smart—while your units are dumb as bricks, unable to get from point A to point B without help.

All things considered, there is still a lot to like in Age of Empires. Despite the flaws

in the empire-building aspects, the game adds a new twist to real-time strategy gaming, and that is enough to outweigh, or at least compensate for, many of the game's problems. If you're tired of the Command & Conquer clone, this game definitely offers something different. Age of Empires still uses the tried-and-true resource-gathering model of C&C and WarCraft, but instead of one or two resources, you now have four to contend with, which adds more complexity to the game.

There is also a huge variety of units to play with. Military units come in Infantry, Archer, Cavalry, and Siege varieties, each one possessing characteristics that advance as you advance from the Stone Age. The Infantry is the workhorse of the military, starting out as a simple man with a club and evolving to a heavily armored, tough Centurion. One of the most enjoyable parts of Age of Empires is advancing the military units.

Overall, the single-player game has quite a bit of depth to it. There are easily 40 to 50 hours worth of missions to complete. The missions can get a bit redundant, and some of the mission objectives are very difficult, but a mission editor greatly enhances long-term playability. Multiplayer games are limited to playing against other Mac users only.

Age of Empires is a compelling game, largely because it diverges in so many ways from traditional real-time strategy titles. But because Age of Empires treads new paths, it makes a few mistakes along the way, some of which can be forgiven and some of which are frustrating. Flaws aside, you'll have a good time playing.—*Rick Sanchez*

THE IRON AGE IS THE HEIGHT OF CIVILIZATION, featuring impregnable walls, chariot riding archers, and Centurion footmen.



NAVAL POWER IS THE KEY TO RULING THE WORLD: Ships can overpower pretty much any land-based units—an advantage to whoever rules the seas.



GOOD NEWS: Unique, deep game-play. Large variety of units. Lots of missions for long playability. Mission editor. **BAD NEWS:** Poor unit AI. Naval units are too strong and unbalance gameplay.

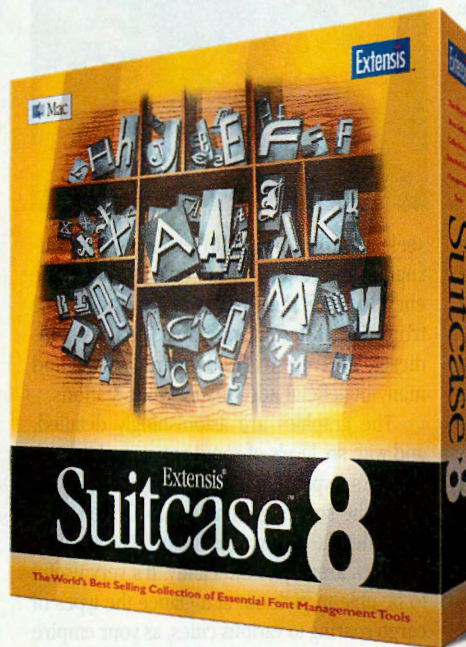


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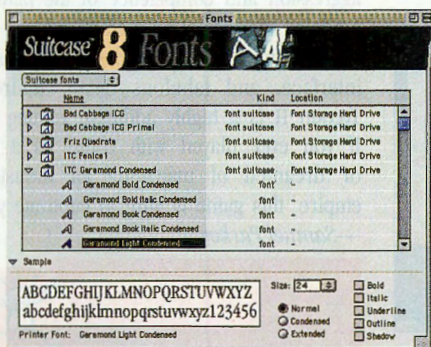


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Railroad Tycoon II

FUN & GAMES

COMPANY: Gathering of Developers

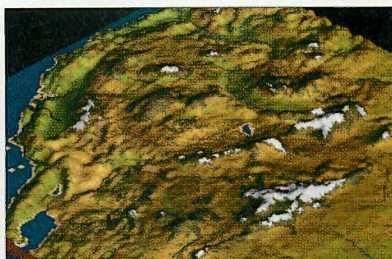
CONTACT: 877-463-4263, <http://www.railroadtycoon2.com>

PRICE: \$49.95 (SRP)

REQUIREMENTS: PowerPC, 133MHz or faster, System 7.5.3 or later, 16MB of RAM, 130MB of free hard disk space, quad-speed CD-ROM drive, 800 by 600 resolution

The fascination with railroads and trains starts early, as model trains and railroads keep kids busy for hours. As adults, we admire the raw power and mechanical beauty of real trains. If you love trains—playing with them, building expansive railroads—and own a Mac, you can fulfill your childhood fantasies with Railroad Tycoon II, an awesome and versatile real-time strategy game.

Railroad Tycoon II makes you the chairman of a major railroad company, giving you the opportunity to be a visionary and open up new territories and industries, or a ruthless robber baron who runs the competition into the ground. Gameplay provides a bit of both. In this strategy title, you build your company from the ground up and manage both passenger and cargo loads to maintain profitability. Play Wall Street and



seek territorial rights to expand your railroad—and fatten your own wallet. The encyclopedic detail allows you to choose from 51 different engine types (steam, diesel, and electric), 34 cargo cars, and many beneficial add-ons for your stations.

The graphics are astonishingly detailed, and with six levels of zoom you can plan your empire's expansion on the political map or count the smoking chimneys in Detroit. The crisp details of high-resolution 16-bit color graphics aren't just eye candy. It's very useful to be able to pick out at a glance the types of cargo roaring to various cities, as your empire may span countries or entire continents. Good sound effects such as bellowing engines and screaming whistles also give the game the you-are-there feel. Unfortunately, the music never breaks out of its Wild West motif and often doesn't match the diverse geography that the game covers.



WALL STREET HIGH JINKS are the lifeblood of a successful railroad tycoon's personal wealth. Invest wisely and you can make the market tremble at your feet.



IMPRESSIVE DETAIL IN SCOPE and depth awaits you. The default 1,024 by 762 resolution allows you to identify a train's cargo at medium zoom, but in close-up the cities brim with life.

Railroad Tycoon is both replayable—it includes a full scenario editor beyond the 18 large missions—and terrifically expansive, even overwhelmingly so. We found ourselves pausing the game often to micromanage freight routes and traffic, trying to ensure a solid profit. On the large maps, where you will probably have more than 50 trains running at once, micromanaging can make the game almost seem to start and stop. Automation options or advice from a computer assistant can ease the load. It can be tricky to spot all the holes that may drain your profits.

Railroad Tycoon II is absolutely accessible to all ages and includes a "sandbox" mode that does away with all financial considerations, letting you get down and play with trains. Otherwise, adjusting the game's difficulty changes the entire range of factors—from modifying the financial model, which makes it easier to sell transported goods and simplifies the stock market, to altering the aggression and competence of the players, modeled after actual railroad moguls.

With impressive game design, a pleasing interface, and fabulous detail, Railroad Tycoon II is a highly addictive gaming hit. If you ever played with trains as a kid or dreamed of managing an industrial empire, this game is sure to captivate you.

—Samuel Parker

GOOD NEWS: Astonishingly detailed graphics. Wide range of trains and industries. Deliciously ruthless financial opportunities. Highly adjustable difficulty. **BAD NEWS:** Potential for bogging down in micromanagement.



Be a Tycoon or Cheat Like One

Run Your Trains Fast: Avoid excess curves on the flatlands and steep grades in the hills. Lay short sections of track at a time in tough areas.

Milk the Passenger Profit: Send passengers where they're most welcome and build hotels and restaurants for residual income.

Make Triangular Trade Routes: Connect raw materials to factories to commercial markets for a route plated in gold.

Centralize Your Resource Collection: Use the largest stations to group together several industries in the country; one-industry stations aren't worth the trouble.

Press Tab and type these codes for a special bonus:

Cattle Futures: Gives player \$1 million.

King of the Hill: Gives player \$100 million.

Slushfund: Gives company \$1 million.

Powerball: Gives company \$100 million.

Speedracer: Train speeds double.

Casey Jones: All other companies' trains crash.

Show Me the Trains: All trains appear in the purchase train menu.

Steep Track Means Steep Losses: Find passes and avoid slowing down your trains in the mountains.

**In real life, Lara Croft would beat
the living !@#?% out of you for
looking at her like that.**



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power play

It's a beautiful day—why aren't you inside playing games?

Macworld Expo: hot days, cool games

by David Reynolds

It's so cool to be a Mac gamer these days! Rejoice! Shout it from the rooftops! Yell it to the cops who come to tell you to get down! After getting back from Macworld Expo and seeing what the gaming companies had to offer, we can hardly wait to get at the games coming down the pipeline over the next few months.

The show stealer had to be Bungie's keynote speech announcement of its next game, Halo. Bungie's Jason Jones made a point of letting the audience know that what they were seeing was not a rendered movie—it

was the actual gaming engine. And, yes, it looks *that* good.

The game features all kinds of niceties, such as fantastic use of new graphics technologies for ultra-realistic lighting, reflections, fog, dust, and smoke. The story behind Halo is pretty cool, too, and fans of

Larry Niven's *Ringworld* series will be especially jazzed. Halo takes place on a

giant ring artifact, on the inside surface of which a world has been artificially created. The game isn't linear; rather, it unfolds differently depending on the player's actions, and it takes place over much of the ring world's surface. Weapons range from composite swords to orbital bombardment and everything in between. Humans battle aliens in both indoor and true outdoor combat, with some of the most amazing attention to detail ever. Network play focuses on cooperative teams doing things like driving around in a humvee-like vehicle and blowing things up.

But before Halo encircles the gaming world sometime in 2000, Bungie will unleash another very cool product: Oni. This anime-style action game is progressing quite nicely, and we got to see some painful new throws that have been added to the mix. Ouch!

MacSoft's been busy, too. Besides porting what seems like a billion and six games to the Mac this year, the company showed off (on a Mac) Tom Clancy's Rainbow Six, a third-person tactics and strategy



BELIEVE IT OR NOT, this ain't no rendered piece of artwork to be printed on the front of a package—this is an actual screen shot of Bungie's new game, Halo, in action.

extravaganza that'll blow your socks off. Also debuting on the Mac in alpha version (and we have an actual screen shot, to boot) is Total Annihilation. If you liked Command & Conquer, you're gonna love this. Total Annihilation, which may already be available when you read this, will include two expansion packs—Battle Tactics and Core Contingency. For first-person shooter addicts, Unreal Tournament is on its way, and MacSoft says that the game will most

likely be a simultaneous Mac/PC release—woohoo! MacSoft is also on the verge of signing a deal to bring several new titles over, so stay tuned.

Aspyr Media had a couple of announcements to share with the rest of the class. Aside from showing Madden NFL 2000 running on a Mac (still on track for simultaneous Mac/PC release early this fall), the company officially announced that Lara Croft is coming back to the Mac in Tomb Raider III, the follow-up

**GUNS
BLAZING,
everyone's
favorite
action
heroine is
back!**



The Burning Monkey Is Back!

Burning Monkey Solitaire 2

Publisher: Freeverse Software

(Shareware; \$14.95, 800-373-3837, <http://www.freeverse.com>)

The good folks at Freeverse Software (remember Jared?) have released the second version of their excellent solitaire program, Burning Monkey Solitaire. Don't ask about the title; instead, download this gem and select Why Burning!?! from the Why menu. Creating a solitaire game is challenging because, at heart, all solitaire games are pretty much the same—it's what surrounds the card game that makes or breaks it. That said, Burning Monkey Solitaire 2 is made. Besides having a wide range of solitaire games to choose from (including our favorite, 52-card pickup), Burning Monkey Solitaire surrounds them with really bad jokes, plenty of monkeys that do different things when clicked, and the ability to choose your own background music (including MP3s). We've even included a few Easter eggs for your enjoyment. Type them in exactly as shown here:

tab—Makes a head come on screen saying "Spock."

top—Makes a head come on screen saying "Monkey sorry."

B—Makes all monkeys burn at the same time.

M—Makes "Hello, King" sound.—DR



BURNING MONKEY SOLITAIRE

RETURNS—this time, with more burning monkeys, more games, and more music! Yes, that monkey is on fire. Why? That's one of our burning questions, too.

to the classic Tomb Raider series. Aspyr also announced that Sid Meyer's Alpha Centauri, a legendary real-time science fiction strategy game, is coming our way, and it's scheduled to arrive later this year, just in time for the holidays. Man, we can hardly wait!

But that's not all. There's tons more great games and gear on the way. Who can forget Graphic Simulations, makers of Descent 3 and Baldur's Gate? Motion-sickness junkies will eat up the ultra-realistic graphics in Descent 3, and Baldur's Gate

(based on TSR's Forgotten Realms role-playing game) will rock the worlds of Dungeons & Dragons fans. Logitech, which brought Redneck Rampage over to the Mac, is also working on Heretic II and hopes to have a release in a few months. Kernel Productions was showing off its JoyPort USB joystick adapter, which lets you use Genesis, PC, Atari, PlayStation, and Nintendo 64 game controllers on your Mac—just the thing for Virtual PlayStation owners who want to kick butt with their iMacs.

Top Quake III Screen Names

There are some great screen names out there for the new Quake III Arena test, but here are a few of the best we've run across:

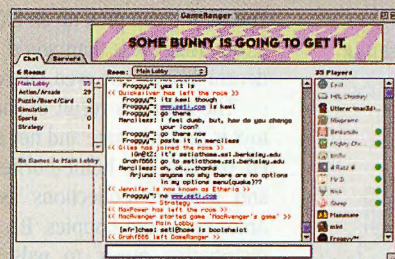
- Don't hurt me, I'm British
- LOW AMMO WARNING (or OUT OF AMMO)
- Your mother (silly, but it gives you messages such as "Player ate your mother's rocket")
- Count Fragula
- Mr. Rogers' Neighborhood of Pain

Q&A

Q: I want to find players online to play games with, but GameSpy doesn't work on Macs. And sometimes with game version differences between the Mac and PC, I can't play games on Heat.net or Won.net. What can I do?

A: Besides going to Blizzard's Battle.net and Bungie's Bungie.net, you need Scott Kevill's fantastic GameRanger. The account is free, and once you log on, you can select from 11 currently supported multiplayer games, with 20 more planned for future Mac releases.

You can also do real-time chat in several rooms labeled by game type. In addition, GameRanger sports an interface that will be familiar to Hotline users. For example, you can select your own nickname, such as "Master Fragger," and an icon. GameRanger also lists servers running Quake, Quake II, Quake III (test), and Unreal for action-loving hotheads. To download GameRanger, go to <http://www.gameranger.com>.—Jennifer Ho



NO, YOU CAN'T FRAG SOMEONE in GameRanger, but you can verbally slap and challenge someone to a fragfest on one of the game servers that GameRanger tracks.

Staff Play List

Here's what the MacAddict staff is playing this month:

Staffer	Rob	Adam	Nikki	David
Game	Boss Quake III	Ms. Pac Man	Marathon	Brood War Quake III
Comments	"It's a challenging game of intrigue and deception."	"I almost beat my high score yesterday."	We riddled her body with bullets.	"The Zerg look like little Smurfs—they're so cute!"



4.



5.



6.

HERE'S A GLIMPSE at three of the hottest games on the way to the Mac. PICTURES 1-4: Scenes from Sid Meyer's Alpha Centauri, which promises to help gamers waste a lot of time. PICTURE 5: A scene aboard an oil rig from Rainbow Six, Tom Clancy's bestseller-turned-tactical game. PICTURE 6: One of the first screenshots from Total Annihilation taken on a Mac.



how to

If information were booze, you'd be partyin' like a rock star about now.

Make a CD Jewel Case Cover

by Joseph Holmes



In 1992, a CD recorder would have set you back about \$10,000. By late 1995, Hewlett Packard introduced a 4X CD-R unit at the breakthrough price of less than \$1,000. Today? You can pick up an 8X unit for under \$300. That's less than you'd shell out for a decent monitor or even Microsoft Office.

The fabulous result of such inexpensive toys is that everyone and her sister has started passing out home-burned music discs and software collections as if they were America Online floppies. It's a fine time for distributing music to pals. Unfortunately, despite being such a high-technology endeavor, the typical homemade CD still looks homemade. You may have just been handed a CD of stellar music, but with the title and the artist's name scrawled across the disc surface in Magic Marker, it sure doesn't seem that special. It's about as attractive as ninth grade biology lab notes.

As with so many things, what makes a great CD isn't just the content, but the presentation too. Take our advice—you'll really warp your friends' minds if you hand them a complete CD package: a CD with a real label, a booklet for the jewel case, and a tray liner (the label inside the case).

In this how to, we'll show you how to use Photoshop to create a template for the tray liner, then how to add graphics and text to your template. We'll even toss in a few details for applying your newfound knowledge to create jewel case booklets and CD labels, too. Then you can practice shuffling your feet and saying, "Aw, shucks, it's just a little something I whipped up on my Mac..." Fire up Photoshop and crack your knuckles...here we go.

What You Need:

- At least one empty CD jewel case
- A printer (the higher quality the better)
- A copy of Adobe Photoshop



CUSTOM CD CASES. Pretty dope, eh? Read on young Jedi, and we'll teach you all you need to know.

How to Remove a Jewel Case Tray

In order to lay your swank new tray liner in a jewel case, you have to lift out the plastic CD holder first. To do this, hold the case firmly in one hand and grip the edge of the plastic tray at the hinged end. Lift firmly until the tray pops free. Then just lay the liner inside. To replace the tray, snap the outer edge in place first and then snap in the hinge end.



WEDGE YOUR FINGERS under the edge and pull hard.

TOUGH
This stuff's for the pros.

TRICKY
It'll take some effort, but you can do it.

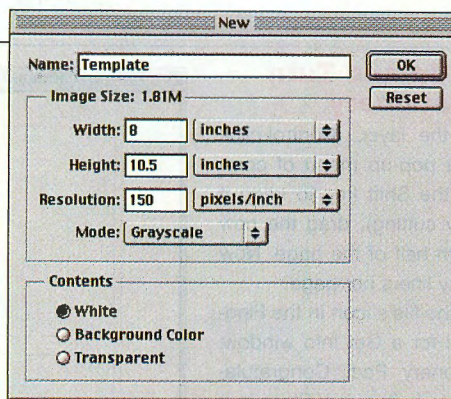
EASY
The fundamentals, if you will.



FIND A PHOTOSHOP 5.0 Tryout on The Disc.

1 Create a New Document

Start by making a new 8-by-10.5-inch Photoshop document. If you're using a 300 dpi laser or inkjet printer, set the resolution at 100 pixels per inch (ppi). For a 600 or 720 dpi inkjet printer, use 150 ppi. Once the document is open, create a new layer (Command-Shift-N).

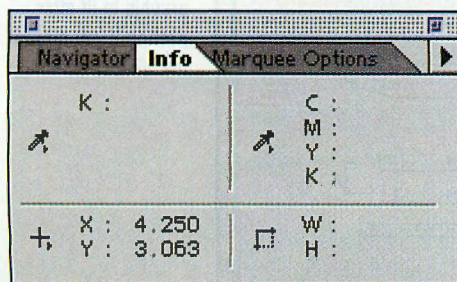


KEEP THE RESOLUTION low—doubling the ppi quadruples the file size.

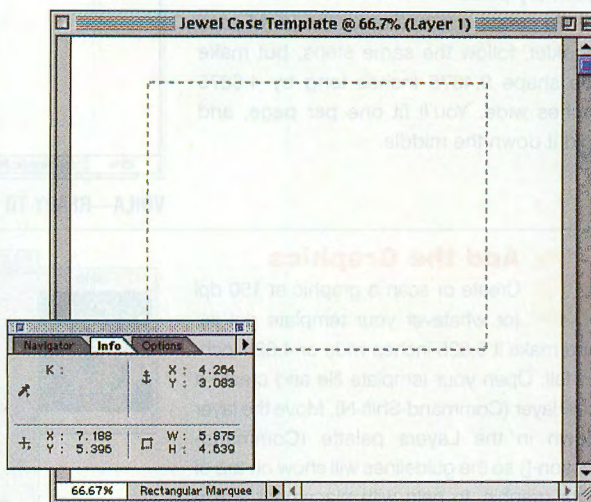
2 Size a Selection

Select the Marquee tool, open the Info palette, and place your cursor 3.0625 inches from the top and 4.25 inches from the left. (Don't worry if you're a couple hundredths off.) Fine tuning is easiest if you blow up the document to 200 percent.

Now hold the Option key (which forces the Marquee to draw from the center), and drag down and to the right until you have a rectangle 4.625 inches high and 5.875 inches wide. Release the mouse button. Your selection is now exactly the size of a finished tray liner.



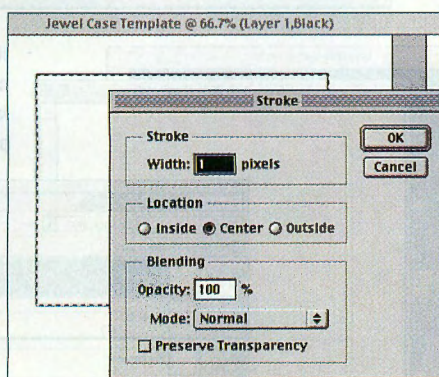
THE LOWER LEFT PANEL of the Info palette shows your cursor location.



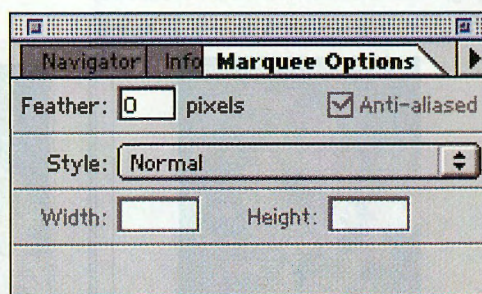
THE LOWER RIGHT PANEL shows the height and width of your selection.

3 Set to Stroke

Select Stroke under the Edit menu. If you're getting a fuzzy antialiased line, open the Options palette and set Feather to 0 pixels. Click OK. Now you've got a 1-pixel outline of a jewel case tray liner.



COPY THESE SETTINGS for your stroke.

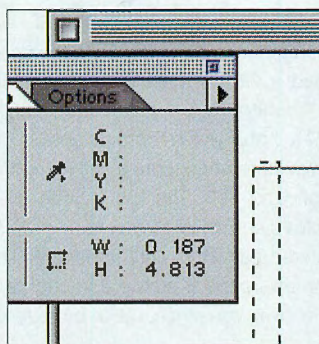


THE MARQUEE OPTIONS PALETTE hides the Feather setting.

4 Create the Spines

Repeat steps 1 through 3 to create the skinny rectangles that mark the jewel case spines—the folded edges where the title and artist text goes. Use the Marquee to create a 0.1875-inch-wide spine at the left and right edges of the rectangle, and use the Stroke command, as before, to turn your selection into a line.

Before you go any further, print what you've got so far, cut carefully on the lines (a paper cutter is very handy here), and fold up the spines to see how it fits in a real CD jewel case.



DRAG OUT A 0.1875-INCH selection at each edge of your rectangle.



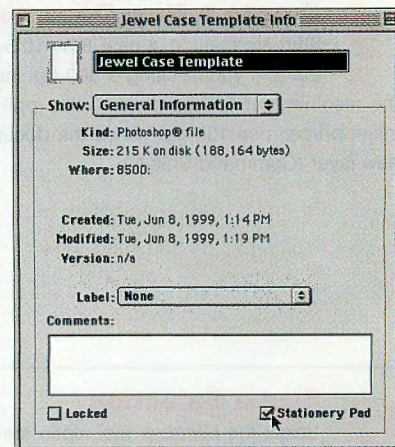
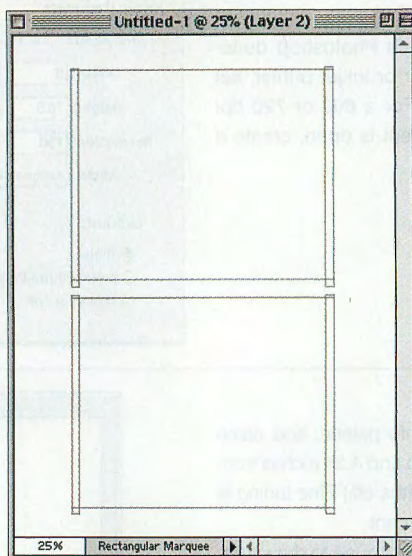
THE EDGES OF THE TRAY fold up to create the two spines.

5 Finish Up and Turn into Stationery

Duplicate the layer. (Control-click on the layer for a pop-up menu of commands.) Holding the Shift key to keep it lined up (for easy cutting), drag the new layer to the bottom half of the page. Now you'll have two tray liners per page.

Finally, select the file's icon in the Finder, hit Command-I for a Get Info window, and check Stationery Pad. Congratulations. Your template is finished. Store in a cool, dry place.

To create a template for the jewel case booklet, follow the same steps, but make the shape 9.4375 inches long by 4.6875 inches wide. You'll fit one per page, and fold it down the middle.

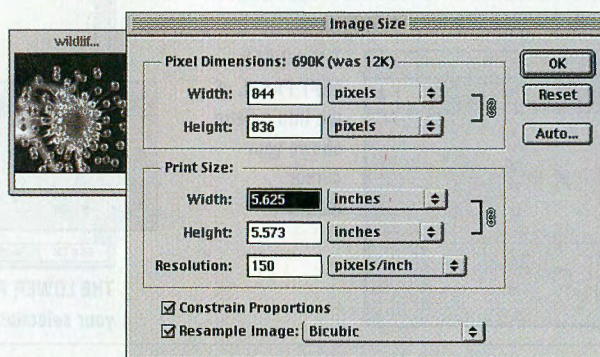


AFTER CHECKING THE STATIONERY box, the file will open as an untitled document.

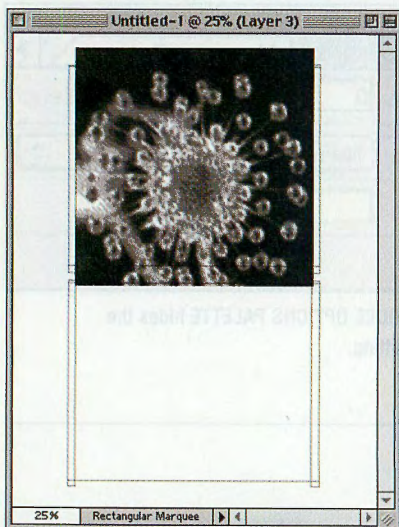
VOILA—READY TO rock 'n' roll.

6 Add the Graphics

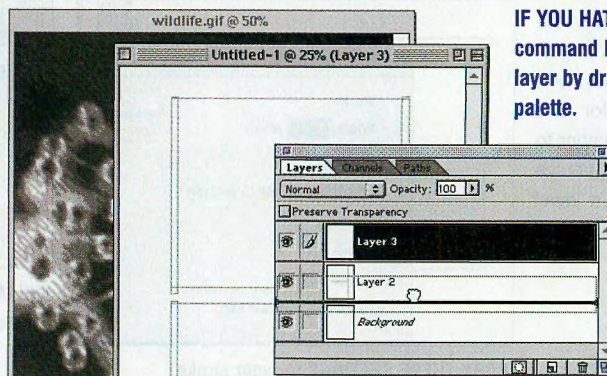
Create or scan a graphic at 150 dpi (or whatever your template dpi is), and make it 5.625 inches wide or 4.625 inches tall. Open your template file and create a new layer (Command-Shift-N). Move the layer down in the Layers palette (Command-Option-]) so the guidelines will show on top of your graphic, to help with placement. Paste your graphics onto the template and move them into place (hold Command while dragging) under the outline of the jewel case tray.



YOU CAN TRIM your graphic to fit after pasting if you make it too wide or too tall.



FINE-TUNE THE PLACEMENT by using command-arrows.



IF YOU HATE TO MEMORIZE command keys, you can move a layer by dragging in the Layers palette.

Tips for Eye-Catching Cases

If you've got clear jewel case trays, print a picture on the backside of the tray liner. When the CD is removed, the inner graphics are revealed. You can also try printing on brightly colored paper, especially effective if you're using a black-and-white printer.

Create Labels for CDs

To create labels for the CDs themselves, you'll need a kit from Neato (800-984-9800 or 203-466-5170, <http://www.neato.com/>), Stomper (949-250-6771, <http://www.stompinc.com/>), or Memorex (<http://www.memorex.com/>), all of which have a street price of \$30. The kits include pre-cut, sticky labels plus a special applicator tool so the stickers can be centered perfectly—very important! These manufacturers also provide software, though a Photoshop template gives you much, much more flexibility.



You haven't seen color like this since your first Pink Floyd concert.



"Wowwww – look at all those colors!"

That's how most people react the first time they see a Radius® display on their PC or Mac.

Fact is, we build monitors and flat panels that are designed to reproduce the broadest and brightest range of colors imaginable, with sharper definition and deeper color saturation than ever before possible.

And while we could go on and on about Sony Trinitron® aperture grilles, flicker-free refresh rates, 1600 x 1200 resolution and wide viewing angles – and believe us, we could – nothing's going to convince you like seeing the real thing.

Because once you experience Radius displays, every one else's will seem, well, kind of like Lawrence Welk.

RADIUS PRODUCT LINE

Product	Display Type	Screen Size	Viewable
S-1F	Flat Panel	15.0"	15.0"
Artica	Flat Panel	17.3"	17.3"
S-1	Monitor	15.0"	14.0"
M-1	Monitor	17.0"	16.0"
L-1	Monitor	19.0"	18.0"
XL-2	Monitor	21.0"	19.7"

radius

DESIGNED for
PC & MAC



7 Try Out Some Type

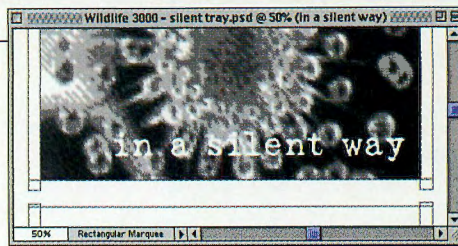
Now use the Text tool to add title and artist text in a contrasting color. If the type blends with the background, use the Gradient tool to gently darken or lighten the background. To add the title and artist to the two spines, select the Vertical Type tool. Click the cursor in the spine area. In the Type dialog box, check the Rotate box and add your text. Be sure the baseline of text points toward the center of the label.

Since the Vertical Text tool sets text only 90 degrees clockwise, you'll have to create the text in the other spine, then use Transform under the Edit menu to rotate it 180 degrees. When your top tray liner is finished, hide the guidelines, copy the graphics (use Copy Merged under the Edit menu to catch all layers), and paste the graphics under the bottom set of guidelines. Your jewel case tray liner is finished.

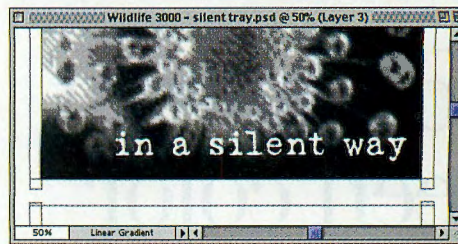


THE VERTICAL
TYPE TOOL is
hidden in the
Tools palette.

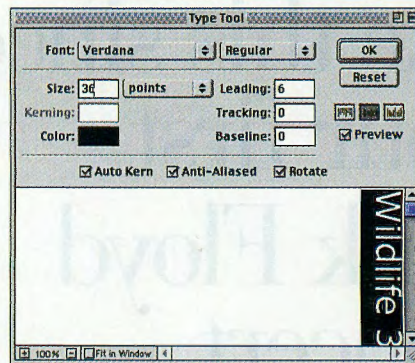
MAKE SURE
YOU don't
accidentally
select Rotate
Canvas from
the Image
menu.



THE TITLE
FADES
into the
background...



...BUT A
GRADIENT
MAKES a
smooth
contrasting
background.



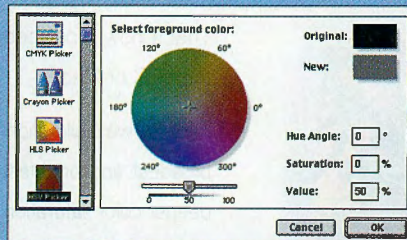
TO CHANGE TEXT ATTRIBUTES, select the text
first, then alter the settings.

Fancy Type Technique

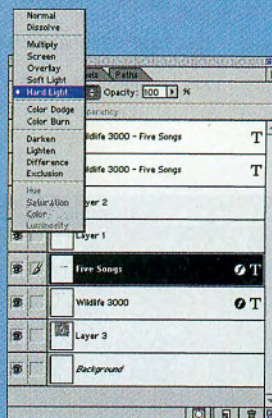
If you're interested in spicing up your CD case design even further, try adding a type effect. Here's how to create a transparent logo graphic, much like the annoying TV station logo you see in the corner of your favorite TV series.



PURTY SLICK, no?



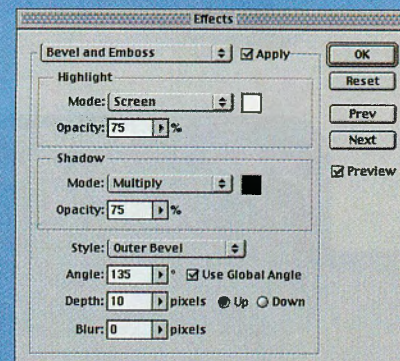
1. START BY SETTING the foreground color
to 50 percent gray. Copy the Hue Angle,
Saturation, and Value settings you see here.



3. SET THE TEXT LAYER to
Hard Light. The text will
disappear, but don't flip
out—it'll be back.



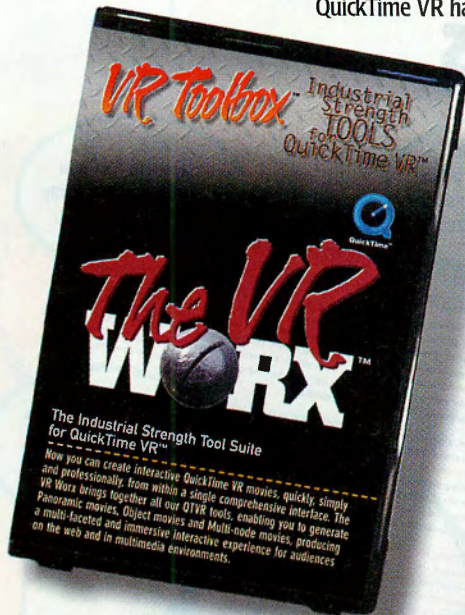
2. NOW USE
THE TEXT TOOL
to create type
on top of the
graphic.



4. NOW SELECT BEVEL AND EMBOSS from the
Effects submenu under the Layer menu. Match
the settings to the screen shot. Groovy!

GET ALL THAT QUICKTIME VR HAS TO OFFER...GET THE ~~WORKS!~~ **Worx**

Introducing The VR Worx™, the new suite of QuickTime VR™ tools from VR Toolbox™. The VR Worx combines all our QTVR™ solutions into a single integrated interface, a studio environment, creating the ideal tool suite for the user who needs all that QuickTime VR has to offer. The VR Worx gives you the ability to generate QTVR Panoramic movies, Object movies and Multi-node scenes, involving advanced elements that push the QuickTime VR envelope...incorporating aspects of this exciting technology not seen in any other QTVR product.



QuickTime VR is fast becoming one of the most important assets you can have, bringing a new level of interactivity and motion to web design and multimedia productions. As in all our products, the user can create interactive QuickTime VR movies quickly, simply and professionally, with any kind of camera...film, digital or video. And it's cross platform...available for Windows™ and Mac OS™.

Explore the potential of e-commerce, like showing panoramic movies of real estate or visiting travel & leisure destinations. Incorporate object movies for on-line product catalogs, training & instruction and more. Create multi-node virtual environments with panoramas, objects, still images and linear movies. So many things, from products to parts, artifacts to works of art, show-rooms to corporate facilities come to life when viewed from any vantage point...the possibilities are endless.

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PHOTOSHOP™ ACQUIRE PLUG-INS**

www.vrtoolbox.com

Visit our web site, where you can download FREE Demos of our products for both Windows and Macintosh and shop at our on-line store

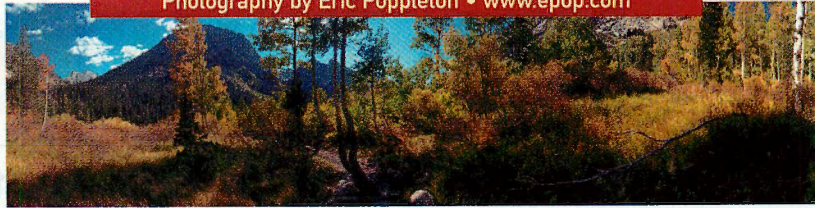
VR PanoWorx™



PANORAMIC

Panoramic movies show the viewer a full 360 degrees vista. The movie is built out of a series of still photographic images, stitched together to form a single flat panoramic image which is wrapped into a barrel and seamed together. The viewer is placed inside, seeing the interior of the barrel as a panoramic vista. The viewer can look left, right, up and down, turning around to see all views of the 360 degree panoramic scene.

Photography by Eric Poppleton • www.epop.com



© 1999, Eric Poppleton Studios, Inc. • Los Angeles, California • 310-471-2845

VR ObjectWorx™



OBJECT

Object movies feature multidimensional views of a particular object. The movie is constructed out of a series of still images (usually 36 for a single band, up to 684 for a full pole-to-pole multiband object movie) which it compiles to create the illusion of a three-dimensional subject. The viewer is given the impression that they are "holding" the object in their hand. They can then rotate it and even tumble it to view all of its sides from any direction.

Photography by Arcamedia • www.arcamedia.com



© 1999, Arcamedia, Inc. • Boston, Massachusetts • 617-624-0101

VR SceneWorx™



SCENE

Multi-node movies are interactive virtual environments, referred to as "scenes," built by combining panoramas, objects, still images and linear movies. Nodes are joined together via linking tools which create hot spots used for navigating from node to node. The resulting movie allows the viewer to "walk" from room to room (each with 360 degree view), pick up and examine objects, watch linear movies and read text or view still images.

Photography by Kelly Bringhurst • www.pbproductions.com



© 1999, Paintbrush Productions, Inc. • St. George, Utah • 435-628-1104

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and for the reseller nearest you
Call Toll Free 1-877-878-6657 or
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Industrial
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TOOLS
for
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AVAILABLE FOR:
M Macintosh™
W Windows™



FIND TRIALS
OF PHOTO-
SHOP 5.0 and
Dreamweaver
2 on The Disc.

how to Build Stylin' Web Sites with Cascading Style Sheets

by Mark Simmons



When it debuted at the end of 1996, the newly crafted Cascading Style Sheet (CSS) specification promised to revolutionize Web typography with fancy text styles, nifty effects, and pixel-precise typography, but haphazard implementation and limited support from the leading Web browsers held it back. In 1999, these factors *still* hold back CSS—but at least we now have a couple of butch Web editing applications to spare us the hassle of coding these wondrous style sheets by hand.

In this tutorial, we'll show you how to create and apply your own style sheets using Adobe GoLive 4.0 and Macromedia Dreamweaver 2.0. Both programs have a similar set of style sheet tools, which you can use to accomplish a variety of eye-catching effects. Note that most of these effects work only in version 4.0 or later of Microsoft's and Netscape's Web browsers. Older browsers remain in a realm of CSS-less monotony, with only the `` tag to adorn their text. In version 4.0 browsers, though, you'll have precision so far seen only in programs like Microsoft Word or QuarkXPress.

Our CSS-enhanced sample page, as seen in Internet Explorer 4.0. Boxes, backgrounds, borders, and typographical acrobatics abound.

Our next level header tag gets a box with a different color and some specialized text.

Our `<H1>` tag now makes text with a pretty box around it.

Our body text comes in its own font and spacing (no `` tags here).

We've got another class style for highlighting sections of the body text.

To highlight a paragraph, we created a special class style to apply at will.

Illustration by Marty Baumann

Getting Around in Styles

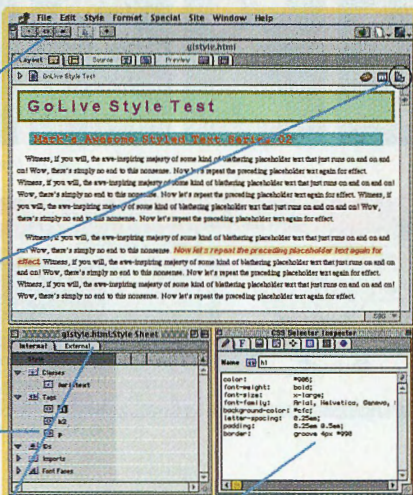
While GoLive and Dreamweaver both offer pretty similar tools for editing styles, the way you get at these tools is different in each case—and sometimes less than obvious. Here are the widgets and buttons you'll need to know.

The style toolbar appears when the Style Sheet window is active. Click the angle bracket button to create a new HTML tag style, or the period button to define a new class style.

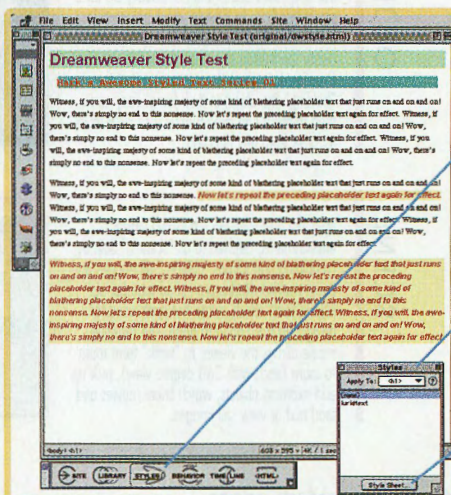
The cascading stair-step icon at the upper right of the editor window opens the Style Sheet editor window.

The Style Sheet window is where you'll manage your assorted formatting rules.

The External tab of the Style Sheet window gives you access to linked style sheets.



When you select a style in the Style Sheet window, GoLive's Inspector becomes a CSS Selector Inspector for editing styles.



To open Dreamweaver's Styles palette, click the Styles button in the Launcher, or just choose it from the Windows menu.

The Styles palette lets you apply class styles to selected text.

To create new styles and edit existing ones, click the Style Sheet button in the Styles palette.

1 Redefine a Tag

First, we'll take advantage of one of the coolest CSS features—the ability to redefine how a specific HTML tag appears. Instead of big, bland header text, make text enclosed by `<h1>` tags (top-level header or biggest headline)—small, green, widely spaced, surrounded by a purple box, or whatever else you desire. Start by creating a new style for the occasion and matching it to the tag in question. GoLive and Dreamweaver have different methods for creating new styles, but both programs present you with a straightforward multi-tabbed dialog box wherein you can set the style's properties.

GOLIVE

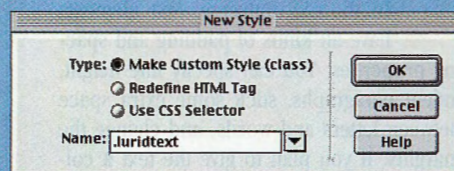


The style toolbar appears in the Style Sheet window. Click the angle bracket button to create a new HTML tag style.

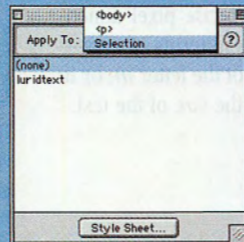


GoLive's Inspector window then becomes a CSS Selector Inspector; the first tab lets you specify the tag and view all its style attributes.

DREAMWEAVER



Click the Style Sheet button in the Styles palette to open this editor, in which you can create and edit new styles.

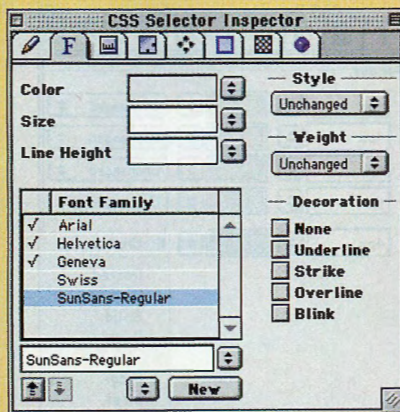


In the New Style dialog, select Redefine HTML Tag, enter the name of the appropriate HTML tag—`<h1>` in this example—and click OK.

2 Raise a Font Family

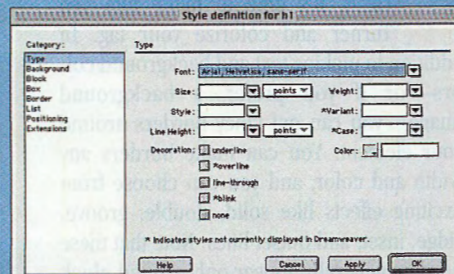
In many respects, CSS replaces the oft-maligned `` tag, allowing you to specify a size, color, and font for your text. Since you can display only those fonts that the end user has installed on the computer, try to stick to common fonts and specify a couple of alternates. Helvetica, Arial, and Geneva are roughly interchangeable sans-serif fonts; Times, Times New Roman, and Palatino are common serif options; and Courier, Courier New, and Monaco are good bets for monospaced type. Both GoLive and Dreamweaver offer autoentry menus with common font combinations.

GOLIVE



Choose your fonts and tweak their order in the Font tab of the CSS Selector Inspector.

DREAMWEAVER

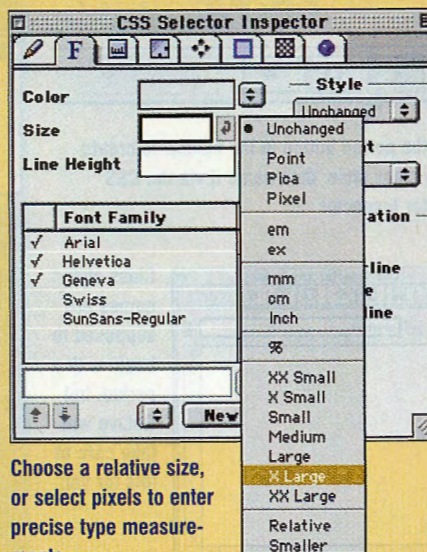


Enter your favorite fonts in the Type panel.

3 Embiggen Your Type

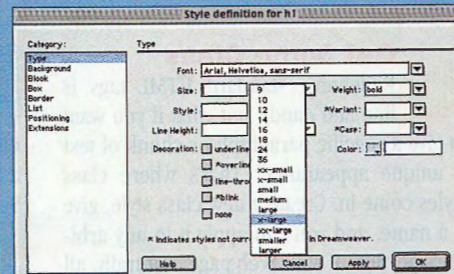
In addition to picking fonts, you can choose styles and type sizes. For strange and complex reasons, text with size specified in points, picas, inches, or other physical units appears one-third larger on Windows browsers; if you want to set precise type sizes rather than the loosey-goosey "xx-small" to "xx-large" sizes, enter the value in pixels. As for type weights and decorations, only bold, italic, strikethrough, and underline are likely to work properly in all version 4.0 browsers.

GOLIVE



Choose a relative size, or select pixels to enter precise type measurements.

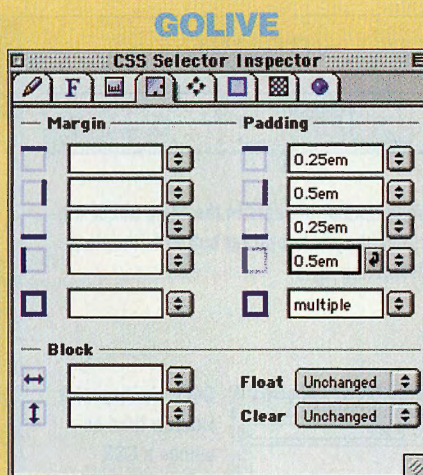
DREAMWEAVER



Again, pick a relative size or specify pixel dimensions—and note the asterisks, which mark CSS properties Dreamweaver's editor can't show.

4 Pad the Text

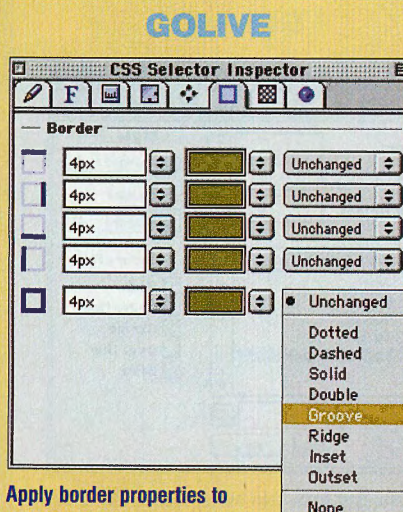
In the CSS universe, text elements have all kinds of padding and spacing properties. You can specify line height, indent paragraphs, stick some extra space between letters and words, and change the margins. If you plan to give the text a colored background or fancy border, you can also throw in some padding between the text and the edges of the enclosing box. When applying spacing and padding, you'll probably want to use either precise pixel dimensions, or measure things in terms of *ems*—units equal to the width of the letter *m*, or in other words, relative to the size of the text.



The Block tab lets you enter margin and padding values, either for each edge or for all four sides at once. See the Font tab for line height and the Text tab for other spacing properties.

5 Colorize and Decorate

Lastly, it's time to make like Ted Turner and colorize your tag. In addition to picking text and background colors—or if you prefer, a background image—you can put fancy borders around your element. You can make borders any width and color, and you can choose from exciting effects like solid, double, groove, ridge, inset, and outset lines. Note that these borders generally appear only around block elements such as `<h1>` and `<p>` tags, rather than inline tags like `` and `<i>`.



Apply border properties to individual sides or on a global basis. See the Font and Background tabs for respective color settings.

6 Get Some Class

Redefining standard HTML tags is fine and dandy, but what if you want to give a specific paragraph or chunk of text a unique appearance? That's where class styles come in. Create a new class style, give it a name, and you can apply it to any arbitrary portion of your Web page. Naturally, all the style properties we discussed above are also available for class styles.

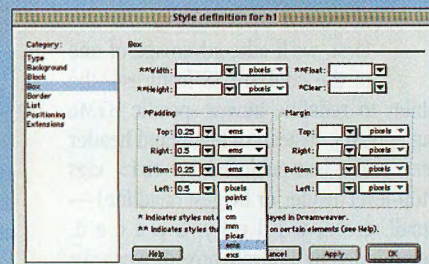


Click the period button in the toolbar to create a new class style, then name it via the CSS Selector Inspector.



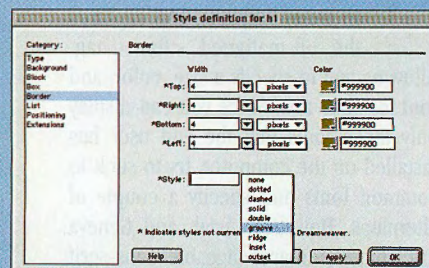
Class style names are supposed to begin with a period, but GoLive will take care of this for you.

DREAMWEAVER



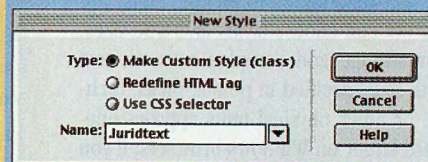
Same concept, different nomenclature; here, the Box panel stores the margin and padding values. See the Type panel for line height and the Block panel for other spacing features.

DREAMWEAVER



In Dreamweaver, every side must have the same border style. See the Type and Background panels for more color options, and click the OK button when you're all done.

DREAMWEAVER



Choose Make Custom Style in the New Style dialog box and enter a name—don't forget that class names must begin with a period.



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05

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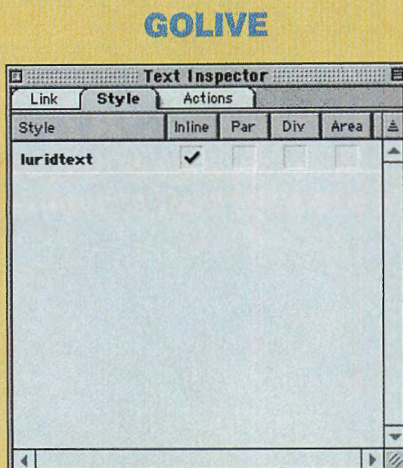
www.godgames.com



www.iflytri.com

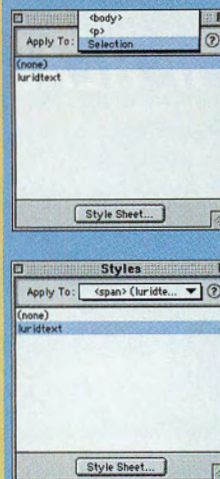
7 Div, Span, and Customize

Once you've created your class style, you can apply it to text in your Web page. You can apply a class to selected text only (via the `` tag), to the entire paragraph (via the enclosing `<p>` tag), to an arbitrary chunk of the page (via the `<div>` tag), or to the entire page. GoLive and Dreamweaver have different methods for specifying which tag to use for applying the class style.



Select some text on your Web page, click the Style tab in the Text Inspector, and choose the tag to use for applying the class style.

DREAMWEAVER

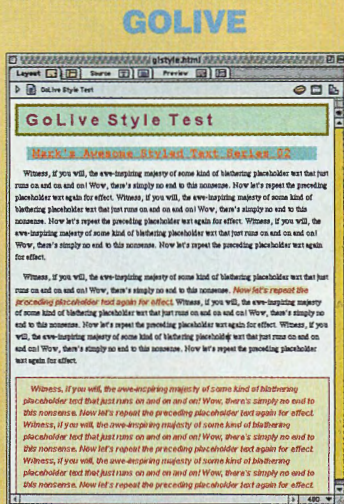


Select some text and choose the appropriate level—the selection, the enclosing paragraph, the enclosing `<div>` tag, if available, or the entire page body.

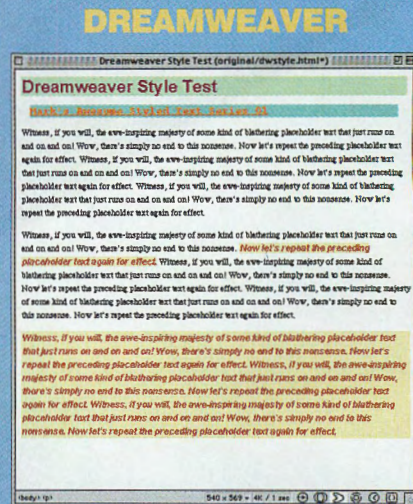
Then click the desired class style to apply it to the corresponding tag.

8 Check It Out

Congratulations—you're now styling! Spend some time redefining HTML tags, creating and applying class styles, and exploring the manifold capabilities of CSS formatting. While your Web page editor will do its best to show you what you've accomplished, in order to see your page in its full glory you should save your work and view it in version 4.0 or later of Internet Explorer, Netscape Navigator, or Netscape Communicator.



As you create and modify your styles, the Editor window faithfully reflects the changes you make.



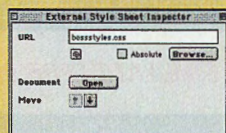
The Editor window doesn't display CSS features such as padding, borders, indents, or letter spacing. To see the effects for real, you'll have to use the Preview In Browser command.

Externalize Your Styles

If you're planning to use the same styles on multiple pages of a Web site, why not centralize? Create an external style sheet, then connect all your pages to it. Not only will you eliminate a lot of redundant code, but you'll also be able to tweak your styles by updating a single page rather than dozens and dozens of 'em. Here's how to do the trick. (Note that while Dreamweaver lets you create new style sheets during the linking process, GoLive requires you to create external style sheets manually before you can link to them.)

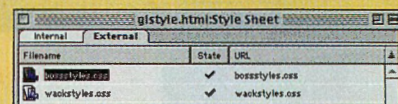
GOLIVE

Switch to the External tab of the Style Sheet window, then click the stair-step icon to add a new external style sheet link.



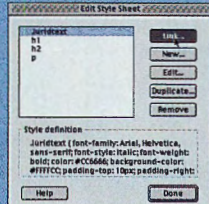
select an existing style sheet.

The Inspector then becomes an External Style Sheet Inspector, allowing you to

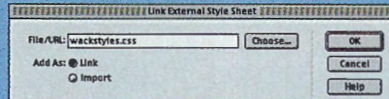


Linked style sheets appear in the External tab of GoLive's Style Sheet window.

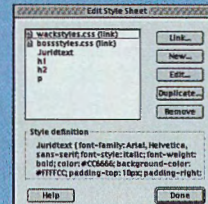
DREAMWEAVER



First click the Link button in the Style Sheet editor.



Locate your external style sheet. For optimum browser compatibility, use the Link option rather than Import.



Our external style sheets are locked and loaded, their contents ready for editing and application.



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how to

Build a Bootable Troubleshooting CD

by Owen W. Linzmayer



FIND ICON-RANGER on The Disc.

It's never fun when your Mac refuses to start up properly after a particularly nasty crash. As you stare at that relentlessly blinking question mark, you fear losing your irreplaceable files, your valuable time, and your fragile mind. Resigned to the task ahead, you go to your software shelf, pull down the original Mac OS package, dig through your drawers to locate your favorite hard drive repair utility, and contemplate wasting hours downloading huge update files from the Internet...again. Things would be so much easier if you had everything you needed on one troubleshooting disc.

Creating a custom CD is an easy enough chore in this era of inexpensive CD burners. The trick, however, is making a CD-ROM bootable when your hard drive dies.

Burning a bootable CD-ROM isn't rocket science, but little mistakes in the process can cause you unnecessary computer-induced grief, which is what you were trying to prevent in the first place. To help you out, we've created this step-by-step guide to creating the perfect bootable troubleshooting CD.

To burn a custom CD, you need either a CD-R (recordable) or CD-RW (re-writable) drive with software such as Adaptec's Toast 3.5.6 (800-804-8886 or 408-945-8600, <http://www.adaptec.com>). These drives are most plentiful as SCSI devices, but there are also IDE and USB versions available, so nobody is left out in the cold. Both CD-R and CD-RW drives can write to CD-R blanks—which cost around a buck apiece—turning them into discs that can be read in most CD-ROM drives (or in the case of music CDs, in most audio compact disc players).

Build your own professional bootable troubleshooting disc, complete with all the trinkets needed to get your Mac humming again:

- Disc utilities such as Norton (800-441-7234 or 541-334-6054, <http://www.symantec.com/nu>)

- System Folder
- Virus scanning software such as Dr. Solomon's Virex (408-988-3832, <http://www.dr Solomon.com/products/virex/index.cfm>), or Norton AntiVirus (800-441-7234 or 541-334-6054, <http://www.symantec.com/nav>)

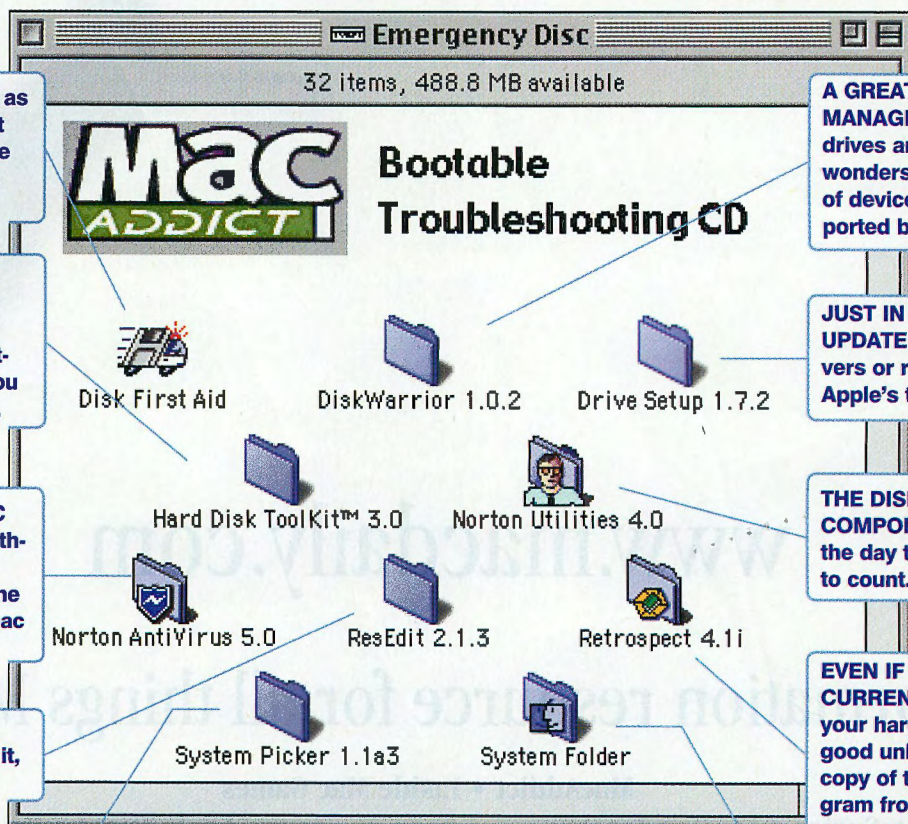
IT'S NOT AS POWERFUL as Norton's Disk Doctor, but there was plenty of space on the CD so we figured, why not?

A FULL-FEATURED DISK REPAIR PROGRAM is a must-have for any emergency disc. No sense settling for just one when you can fit several on the CD.

IF YOU THINK YOUR MAC HAS BEEN INFECTED, nothing beats booting from a clean CD with the medicine you need to make your Mac well again.

IF YOU NEED TO FIDDLE around inside a file to fix it, ResEdit is there for you.

IF YOU INSTALL MULTIPLE SYSTEM FOLDERS on your repaired drive, this handy utility allows you to choose which you'll use.



A GREAT UTILITY FOR MANAGING all sorts of drives and media; works wonders on a wide variety of devices not directly supported by the Mac OS.

JUST IN CASE YOU MUST UPDATE the disk's drivers or reformat using Apple's tool.

THE DISK DOCTOR COMPONENT has saved the day too many times to count.

EVEN IF YOU HAVE A CURRENT BACKUP of your hard drive, it's no good unless you have a copy of the backup program from which you can run a restore operation.

THIS BAD BOY CONTAINS a universal install that has OS 8.5.

Creating a troubleshooting CD takes the right blend of ingredients.

1 Install a Clean System

The first step in building a bootable CD is to create a System Folder that works on a wide range of Mac models. The example used in this article is Mac OS 8.5, which requires a PowerPC and 16MB of RAM, minimum. To create a disc that'll boot older 68K-based Macs, you must use an earlier version of the operating system that's compatible with the intended Macs, but don't go too far back or your disc won't run on newer models.

To begin, insert the Mac OS 8.5 CD into your Mac, double-click Mac OS Install, and click Continue. Choose a Destination Disk with tens if not hundreds of megabytes of free space. Click Options and select Perform Clean Install, click OK, then click Select. This step is crucial because it prevents your existing System Folder from being touched during the installation process. We'll show you how to restore your existing System Folder after you finish creating the clean version needed for the CD.

☒ Perform Clean Installation

Installs a completely new System Folder that does not include your third-party extensions, control panels, or fonts. System software and application preferences are reset to their default settings.

Cancel

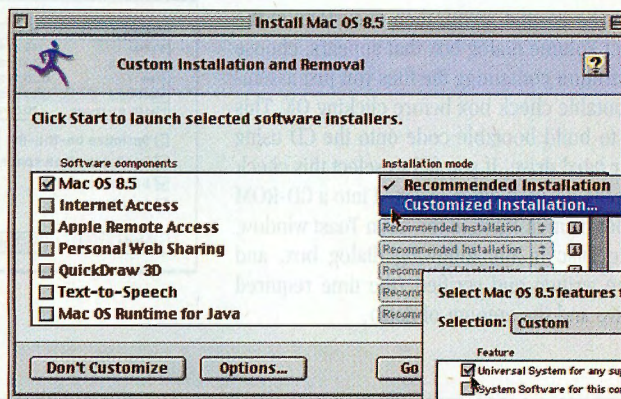
OK

USING CLEAN INSTALL PAYS

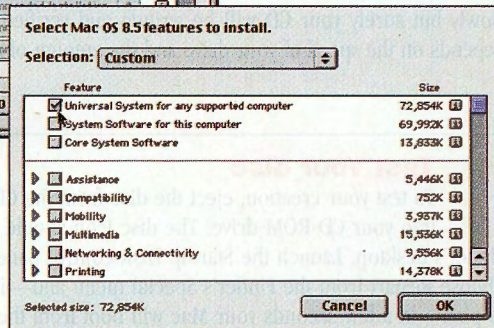
because if you don't use this option, you may accidentally overwrite an existing System Folder and end up with a contaminated mess.

2 Choose Your Options

Before starting the installation, click Customize and deselect all of the software component check boxes except Mac OS 8.5 and any of the other options you want to have on your CD. From the first Installation Mode pop-up menu, choose Customized Installation. Select either Universal System for a full-blown 73MB installation that includes a lot of extraneous—though sometimes useful—stuff, or Core System Software for a bare-bones 14MB installation. After selecting the type of System Folder you want, click OK, then click Start, and in a few minutes you'll have a System Folder that can be used on any Mac capable of running Mac OS 8.5.

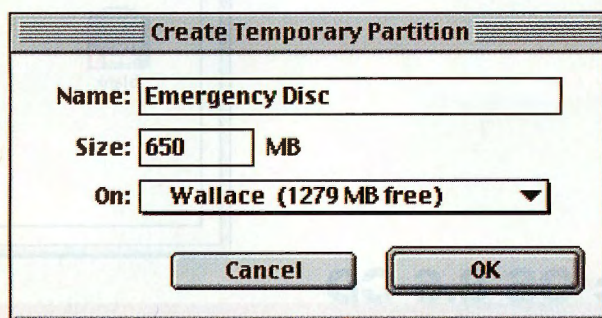


DON'T SETTLE FOR THE EASY INSTALL or you will end up with a System Folder bloated with stuff you'll never use and a disc that can boot on your Mac model only.



3 Create a Partition

Launch Toast. From the Utilities menu, choose Create Temporary Partition, leave the default setting at 650MB, and give it a name, such as Emergency Disc. This sets aside a portion of your hard drive to use as a scratch disk where you'll assemble all of the files and folders you want to burn onto the CD-R.



TOAST'S TEMPORARY PARTITION is your staging area where you'll assemble all the files.

4 Assemble the Pieces

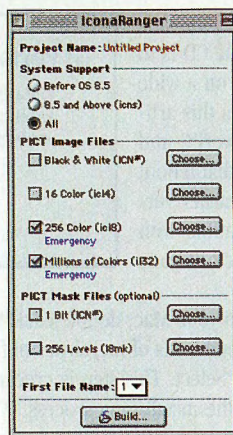
Drag your new, clean System Folder to the Emergency Disc temporary partition to make a copy. Trash the original, and if there's a Previous System Folder on the disk, rename it "System Folder" to put it back in charge.

With the clean copy of the System Folder on the temporary partition, you have the basics of what you need to create a startup disc. Now it's time to add all of the hard disk utilities, data recovery tools, virus eliminators, and backup software. (If any of these programs

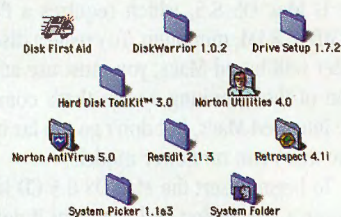
need extensions or control panels to function, copy the necessary files to the System Folder on the temporary partition, but avoid files that update preferences upon startup as they may hang when run from a CD-ROM.) Like putting fixin's on a taco, half the fun is filling the Emergency Disc with whatever you like. You have hundreds of megabytes of free space, so don't let any of it go to waste. If you work in a deadline-driven industry, it might make sense to install fresh copies of any mission-critical applications so you can complete a project even before repairing a damaged hard drive.

5 Make It Pretty

Just because your disc is homemade doesn't mean it has to look like crap. Using IconaRanger from Leister Productions (717-697-1378, <http://www.leisterpro.com>), turn your custom logo from a PICT file into an array of empty folder icons that assemble to form an image in a Finder window. Double-click the Emergency Disc temporary partition and choose Icons from the View menu in the Finder. Choose View Options from the View menu and make sure Icon Arrangement is set to none. Expand the window so it can show all of the icons as well as the picture folders you just created with IconaRanger. Drag the IconaRanger folders to the temporary partition, then tidy up until everything is just as you want it to appear.

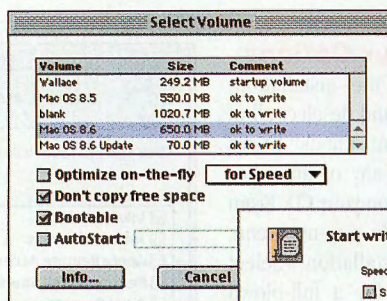


USING ICONARANGER, it's easy to make your discs look like those from professional software publishers.

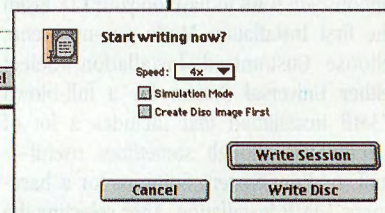


6 The Trick to Toast

Choose Mac Volume from the Format menu, then click Data in the main window. In the Select Volume dialog box that appears, choose the Emergency Disc temporary partition containing the files you just assembled, and be sure to select the Bootable check box before clicking OK. This is the magic step that tells Toast to build bootable code onto the CD using the Apple CD-ROM driver on your hard drive. If you fail to select this check box, your CD will still show up on the desktop when inserted into a CD-ROM drive, but you won't be able to boot from it. Back in the main Toast window, click Write CD, then click Write Disc in the following dialog box, and slowly but surely your CD will be written and verified (the time required depends on the speed of your drive and the amount of data).

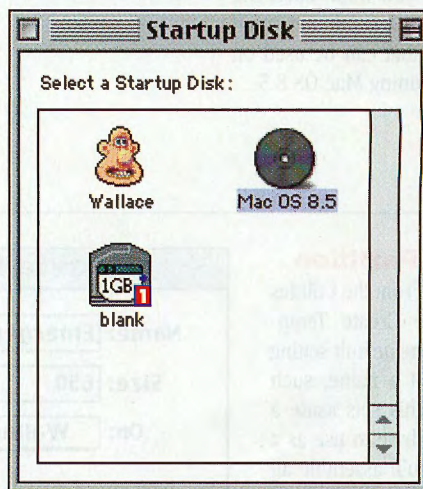


TOAST CAN BURN BOOTABLE DISCS, if you know which box to check and which button to click.



7 Test Your disc

To test your creation, eject the disc from the CD-R drive and pop it into your CD-ROM drive. The disc icon should soon appear on the Finder's desktop. Launch the Startup Disk control panel and select the CD. Choose Restart from the Finder's Special menu and—if all went according to plan—in a few seconds your Mac will boot from the disc you just created. Now let's just hope you never need to use it!



CHECK THE QUALITY OF YOUR PRODUCT by putting it through a real-world test.

Making a Mac OS 8.6 CD

Apple recently released the Mac OS 8.6 Update on its Web site (<http://asu.info.apple.com>) but refused to allow others (including MacAddict) to distribute the 34.5MB file on CD as had been customary. Let's say you're one of the hundreds of thousands forced to patiently download the enormous updater over a mind-numbingly slow modem connection (it took a 56-Kbps modem over two hours to suck this sucker over the phone lines). It's not something you want to do again, but at the same time, you don't want to waste precious hard drive space on a huge updater you'll rarely use. The solution is

to make a bootable copy of your Mac OS 8.5 CD that conveniently includes the Mac OS 8.6 Update. Here's how: Insert the Mac OS 8.5 CD, double-click its icon, select all (Command-A), and drag everything to the empty temporary partition. Then drag the Mac OS 8.6 Update disk image (the 70MB thing that appears on your desktop after double-clicking the .smi file you downloaded) to the partition before proceeding to step 5. When you're done, you'll have a disc that you can use to install Mac OS 8.6 on any supported computer (you must first install Mac OS 8.5 and then use the 8.6 updater separately).

Owen W. Linzmayer is a San Francisco-based freelance writer and the author of the critically acclaimed new book, *Apple Confidential: The Real Story of Apple Computer, Inc.* Sample chapters are available as Adobe Acrobat PDF files on the MacAddict CD.

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FIND BANANA
PEELER 1.02,
Natural Order
1.4, DSG
Theme and
Paper appear-
ances, the
hacked version
of Sherlock
Default, and
TTConverter 1.5
on The Disc.

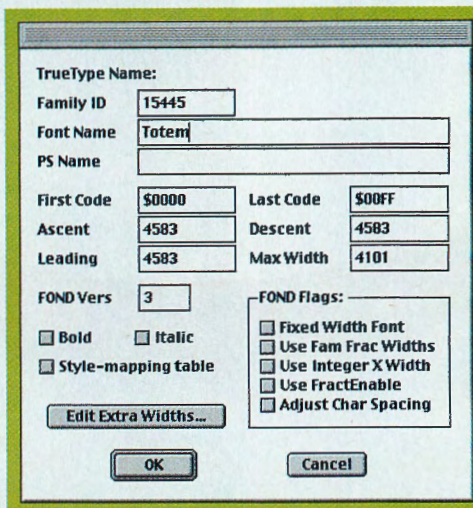
Questions?

Submit technical questions or helpful tips directly via email (askus@macaddict.com) or c/o MacAddict, 150 North Hill Dr., Suite 40, Brisbane, CA 94005.

Q A friend sent me a bunch of awesome TrueType fonts for Windows. I wasn't really expecting them to work right, but because the Mac can handle TrueType fonts, I thought it was worth a try. When I dragged the Windows files onto the System Folder, the Finder put them into the Fonts folder automatically, which I took to be a good sign, but the fonts didn't show up in any application Font menus. Is there any way to convert these files to a Mac-friendly format?

A According to the Apple Tech Info Library (<http://til.info.apple.com>), "The Windows version of TrueType fonts contains additional tables not found in the Mac OS version of TrueType fonts." As a result, you can't use Windows TrueType fonts (indicated by the .ttf extension) on the Macintosh in their native form. Macromedia's Fontographer is a complete font designer application (800-470-7211 or 415-252-2000, <http://www.macromedia.com>) that can convert files to Mac format, but its list price is \$349, which is probably more than you want to spend, right? What you want is Chris Reed's \$10 shareware program TTConverter, which makes converting between Mac and Windows TrueType formats as easy as drag-and-drop.

Q They sit innocently enough across the top of my keyboard, but what do they do? I'm talking, of course, about the function keys, labeled F1 through F12. How do I assign functions to them so they can live up to their name?



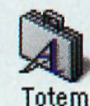
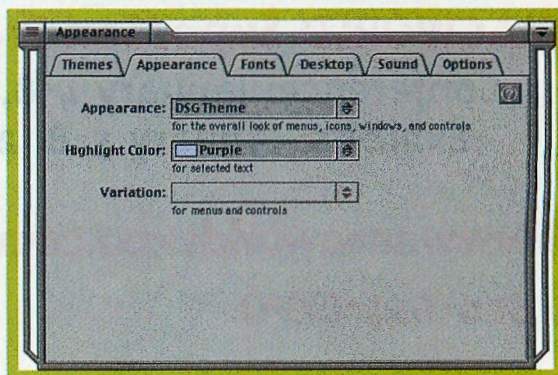
WHY FIGHT FILE FORMATS when TTConverter can turn TrueType fonts from Windows to Mac and back?

A The function keys made their debut on the Apple Extended Keyboard in an attempt to mimic the layout of PC keyboards and curry favor with the corporate DOS crowd. Most programs failed to take advantage of them at all until System 7.5.1 was released. Since then, pressing F1, F2, F3, or F4 is the same as choosing Undo, Cut, Copy, or Paste, respectively, from the Edit menu. But it doesn't have to end there. Using a macro utility, you can configure the function keys to do damn near anything you want. All you need is a copy of MacroMaker (included with system software prior to System 7), CE Software's QuickKeys (800-523-7638 or 515-221-1801, <http://www.cesoft.com>), WestCode Software's OneClick (800-448-4250 or 619-487-9200, <http://www.westcode-soft.com>), or Binary Software's Key-Quencer (800-824-6279 or 310-449-1481, <http://www.binarysoft.com>).

Q I have a question regarding the Appearance control panel in Mac OS 8.5. Ever since I got Mac OS 8.5, I have been wondering if there was any place I could find more appearances other than Apple platinum. I have come across third-party control panels like Kaleidoscope that modify the user interface, but I have not been able to find any other files that I can use with just the operating system. Could you point me in the right direction?

A One of the new features introduced with Mac OS 8.5 is the concept of appearances (often called themes) which are selected in the Appearance tab of the Appearance control panel and give you the ability to easily change the overall look of menus, icons, windows, and controls. Pre-release versions of Mac OS 8.5 came with four appearances—Apple platinum, Drawing Board, Gizmo, and Hi-Tech—which reside in the Theme Files folder inside the Appearance folder, inside the System Folder. However, only Apple platinum shipped with the final version of Mac OS 8.5. Rumor has it that the other appearances resulted in system instability and were therefore yanked at the last moment. Apple has indicated that it will release addi-

GIVING YOUR MAC A MAKEOVER is easy with new appearances now making their way to the public.



tional appearances in the future but has made no specific promises. Third-party developers have been slow to release their own appearances, but that's starting to change.

A cursory search of the Internet with Sherlock revealed a few professional-quality appearances, as well as illegally posted copies of Apple's files. One of the first legal appearances is Paper, from the Allegro Themes Project (<http://atp.gpsmac.net>). Paper uses soft lighting and applies a paper texture to interface objects to give windows and other display elements a softer, more natural feel. Active windows have a diffuse light applied to them, creating a subtle shading effect, while background windows are cast in a darker light, more closely resembling a natural lighting effect. Also worth downloading is the DSG Theme from the DS Group (<http://www.dsgruopinc.com>). Personally, I find these interface tweaks distracting, but if you want a wealth of whacked-out options, your best bet remains Kaleidoscope, as there are hundreds of schemes already available. At last year's WorldWide Developers Conference, Apple demonstrated a utility that converted Kaleidoscope schemes into themes, but it has not yet been publicly released.

Q When I capture pictures using the Mac's built-in screen shot capability (Command-Shift-3), I get the files I want, but if I capture more than 10 of them, they aren't listed in the proper order. The files are automatically named and numbered Picture 1, Picture 2, and so on, but when viewed by name in the Finder, Picture 10 comes immediately after Picture 1 and before Picture 2. What's up with that? If memory serves, in school I was taught that 10 came after 9 and before 11. Is there anything that can fix this problem?

A What you need is Natural Order, a freeware extension from Stuart Cheshire (<http://rescomp.Stanford.EDU/~cheshire>

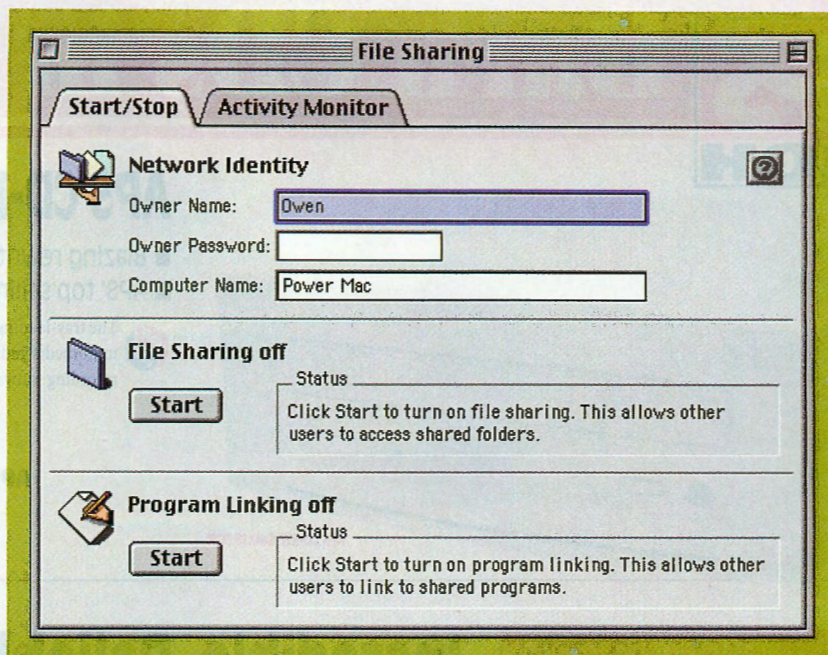
BEFORE

Name
Picture 1
Picture 10
Picture 11
Picture 2
Picture 3
Picture 4
Picture 5
Picture 6

AFTER

Name
Picture 1
Picture 2
Picture 3
Picture 4
Picture 5
Picture 6
Picture 7
Picture 8
Picture 9
Picture 10
Picture 11

SORT NUMBERED ITEMS CORRECTLY with the help of the freeware extension Natural Order.



WHO THE MAC THINKS YOU ARE is determined by the Network Identity setting in the File Sharing control panel.

/NaturalOrder.html). This simple little file changes the way the Mac sorts numbered files. Normally when you tell the Finder to sort by name, the Mac OS sorts lexicographically. So just as "AB" comes before "C," the Mac figures that a file name ending in "10" should come before the same name ending in "2" (which is correct alphabetically, but not numerically). Natural Order overrides the Mac's comparison of the numerical portions of text strings and sorts the results by numerical value instead of alphabetical value. As a result, files ending in numbers are sorted correctly, the way you want.

Q I recently bought a Performa 6300 (yeah, yeah, I know—it was cheap, OK?) from a friend of mine, when she upgraded to one of those snazzy new PowerBooks. Anyway, how do I change the user name of the computer from hers to mine? It's usually not a problem, but (for example) MPW Shell fills in that information automatically when you start a project. I'm sick of her getting all the credit!

A Ever install a new program and wondered how it knew your name when it presented the registration dialog box? Usually the registration program takes the Network Identity setting from the File Sharing control panel and assumes that's your name. Chances are that's what MPW Shell is doing, too. Open the control panel and

change the Network Identity to your name. Simple as that, my friend.

Q My girlfriend has a very old Mac Classic, and I want to know if I can still get the thing online, just for email, no Web browsing capability is really necessary. There's a port on the back with a little telephone icon which I guess must be for a modem, but beyond that I am lost. What speed of modem can a Mac Classic handle?

A My encyclopedic knowledge of technical minutia not being what it once was, I pointed my browser to the Low End Mac page (<http://lowendmac.com>) and soon found the info you're after, and much more (this is a terrific site for anyone who owns an older Mac and wants to keep it as productive as possible). The Mac Classic reliably supports serial speeds up to 19.2 Kbps and may be able to handle 28.8 Kbps with some dropped and retransmitted packets. While you can connect a faster modem to the Mac Classic's modem port (the one with the phone icon as you rightly assumed), it'll "fall back" to a slower speed until it can connect reliably. As such, it doesn't make sense to buy a new V.90 56-kbps modem for your girlfriend unless you plan on upgrading to a faster Mac eventually. Instead, scrounge around at garage sales or on eBay and pick up a slower modem for a song.

A sample chapter of Owen W. Linzmayer's new book *Apple Confidential: The Real Story of Apple Computer, Inc.* is available as an Adobe Acrobat PDF file on the MacAddict CD.



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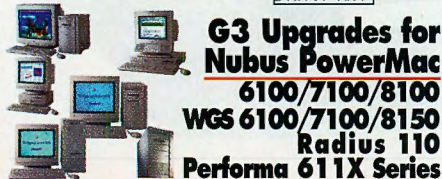


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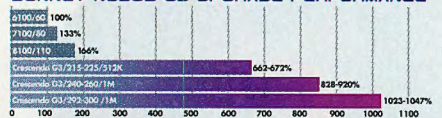
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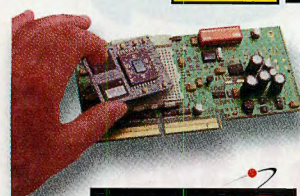
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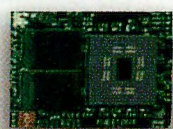
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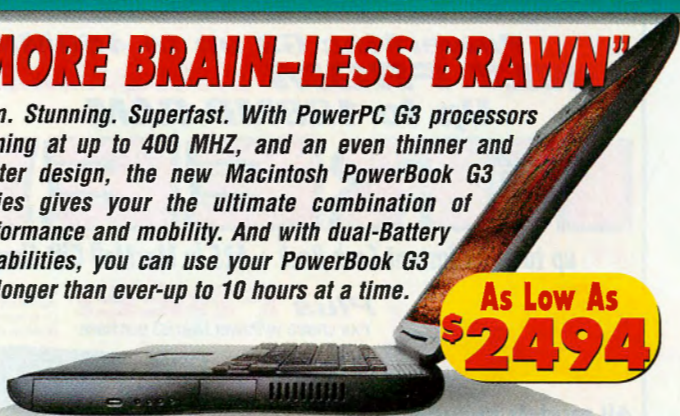
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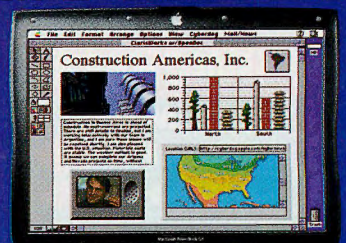
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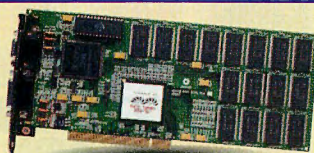


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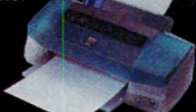
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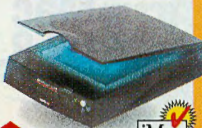
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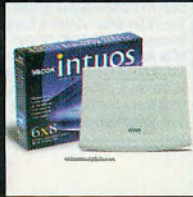
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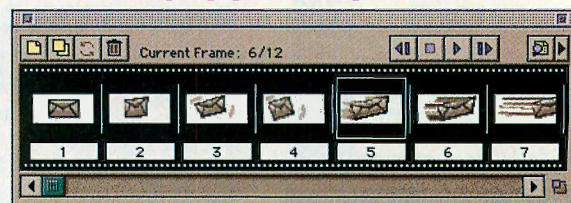
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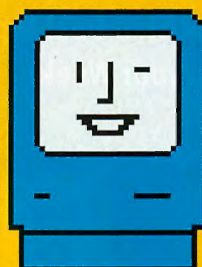
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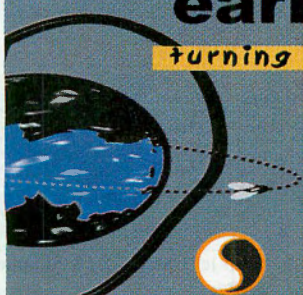
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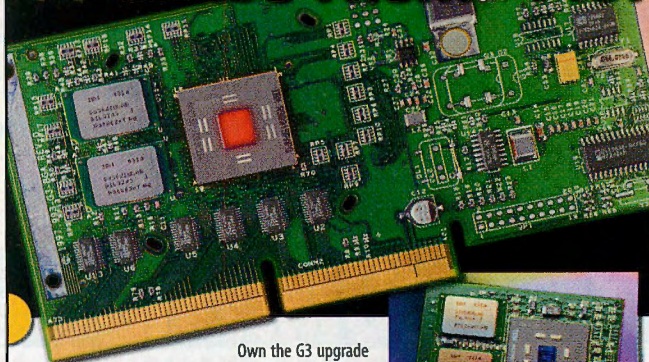
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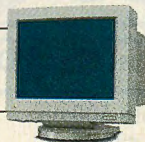
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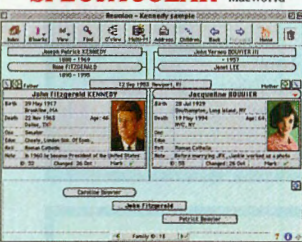
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Mead introduces wireless notebook

Trumping Apple's release of the iBook, Mead announced its own wireless notebook, the Mead Wireless Neatbook. Measuring a svelte 8 by 10 1/2 inches, the Neatbook weighs in at less than 1 pound. Battery life is nearly infinite, as is the display resolution, and the wireless notebook runs the Pencil OS in a cutting edge combination with user-supplied software. The price? Only 79 cents each, or two for \$1—while supplies last. Apple will have a hard time topping *that*!



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TOUCH MY MONKEY

Hot on the heels of Elo TouchSystems's announcement of the iTouch touch screen add-on for the iMac, developers announced a new piece of security software designed to prevent unwanted advances. Titled *Don't Touch Me There*, the new software will run on the iMac or any other touch-screen-enabled Macintosh (except for the Power Macintosh 9500, which likes to be touched anywhere), and it will scream "Back off, you pig!" when the Mac is touched anywhere but on the screen, keyboard, or mouse. A second touch will provoke a high-voltage jolt to deter the groper, and an email will be dispatched to the iMac's attorney requesting that a class-action harassment lawsuit be filed. Both the screamed phrase and the amount of voltage released are customizable, within FCC limits. The product is expected to ship in November.

What is the sound of one bit clapping?

With the impending release of Windows 2000 (yeah, right—reecal soon now) we thought it might be a good time for the Mac faithful to meditate on four nuggets of digital wisdom. They're haiku versions of Windows error messages, and within lies the key to the true path: Macintosh, of course.

*A file that big?
It might be very useful
But now it is gone.*

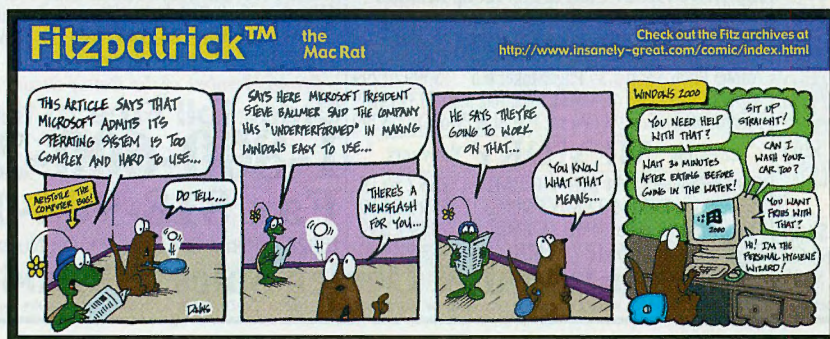
*Windows NT crashed.
I am the Blue Screen of Death.
No one hears your screams.*

*Yesterday it worked.
Today it is not working.
Windows is like that.*

*The Tao that is seen
Is not the true Tao, until
You bring fresh toner.*

MACADDICT CORRECTIONS

- MacAddict staffers accidentally attended a showing of *Rent* instead of Steve Jobs's keynote speech while in New York for MacWorld Expo. Although the show was really, really great, we are sorry about the mix-up.
- In the August issue of *MacAddict*, we said that "You can index HTML and PDF files for speedy retrieval via Sherlock's Find By Content feature." What we meant to say is that "America Online's 'You've got mail' voice announcement scares the bejeezus out of us." We apologize for the error.
- Executive Editor Nikki Echler forgot to carry the one while balancing her checkbook. Oops! Sorry.
- While time-traveling, MacAddict Associate Art Director Adam Vanderhoof accidentally assassinated Archduke Ferdinand, starting World War I and altering the time stream forever. We regret any inconvenience that this may have caused.





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